AD0203067C2

Service Manual

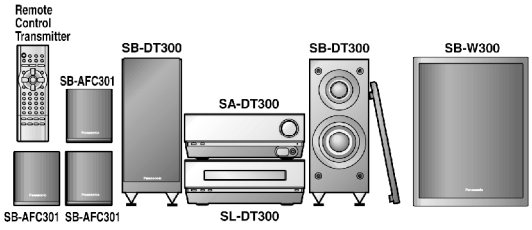
DVD/CD Player

SL-DT300EG

Traverse Deck: RAE1813Z Mechanism Series

Colour

(S).....Silver Type



SPECIFICATIONS

System	SC-DT300
DVD/CD player	**SL-DT300**
AV control receiver	SA-DT300
Front speakers*	SB-DT300
Center speaker*	SB-AFC301
Surround speakers*	SB-AFC301
Subwoofer*	SB-W300

* : Made in Singapore.

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Specifications

Discs played

DVD-Audio, DVD-Video,
DVD-R (DVD-Video formatted discs),
CD (CD-DA), Video-CD,
CD-R/RW (CD-DA, Video-CD, MP3 formatted discs)

Audio

Number of channels: 5.1 (FL, FR, SL, SR, C, SW)

Video

Signal system: PAL, PAL60/NTSC
Output terminal: RCA terminal (composite video)
S terminal (Y, C)

Pickup

Beam source: Semiconductor laser
Wavelength 658/790 nm

General

Dimensions (WxHxD): 190x73x335 mm
Mass: 1.8 kg

Notes: Specifications are subject to change without notice.
Mass and dimensions are approximate.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. Note

Refer to the service manual for Model No. SA-DT300 (Order No. AD0203066C2) for information on Accessories and Packaging.

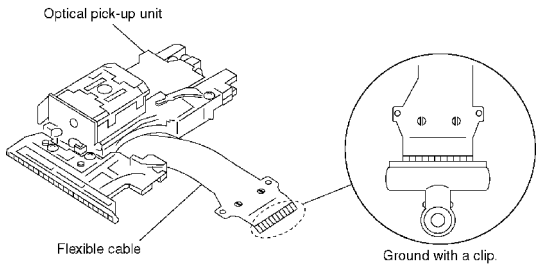
2. Handling Precautions for Traverse Deck

The laser diode in the optical pick-up may break down due to potential difference caused by static electricity of clothes or human body.
So be careful of electrostatic breakdown during repair of the optical pick-up.

2.1. Handling of optical pick-up

1. **Do not subject the optical pick-up to static electricity as it is extremely sensitive to electrical shock.**
2. **To prevent the breakdown of the laser diode, an antistatic shorting pin or similar object is inserted into the flexible board (FFC board). Refer to Fig. 2-1. / When removing or connecting the shortpin, finish the job in as short time as possible.**
3. **Be careful not to apply excessive stress to the flexible board (FFC board).**
4. **Do not turn the variable resistor (Laser power adjustment).**

Fig. 2-1.

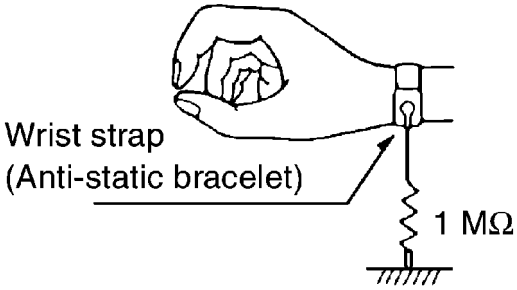


2.2. Grounding for electrostatic breakdown prevention

2.2.1. Human body grounding

Use the antistatic wrist strap to discharge the static electricity from your body. Refer to Fig. 2-2.

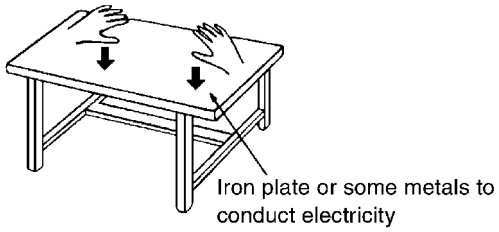
Fig. 2-2.



2.2.2. Work table grounding

Put a conductive material (sheet) or steel sheet on the area where the optical pick-up is placed and ground the sheet. Refer to Fig. 2-3.

Fig. 2-3.



Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pick-up.

3. Precaution of Laser Diode

CAUTION:
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION: This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pick-up lens.
Wave length: 658/790 nm
Maximum output radiation power from pick-up: 100 μW/VDE

Laser radiation from the pick-up unit is safety level, but be sure the followings:

1. Do not disassemble the pick-up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick-up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick-up lens for a long time.

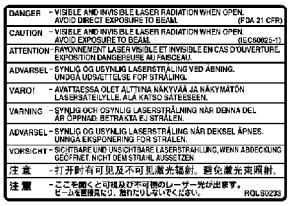
ACHTUNG: Dieses Produkt enthält eine Laserdiode. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit adgestrahit.
Wellenlänge: 658/790 nm
Maximale Strahlungsleistung der Lasereinheit: 100 μW/VDE

Die strahlungan der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werksseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.

(Back of product)

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT


DANGER - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. (FDA 21 CFR)
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. (IEC60825-1)
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNGÅ UDSÆTTELSE FOR STRÅLING.
VARO! - AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLA KATSO SÄTEESEEN.
VARNING - SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注意 - 打开时有可见及不可见激光辐射。避免激光束照射。
注意 - ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見ない。触れたりしないでください。
RQLS0239

(Inside of product)
(Tuotteen sisällä)
(Produktets innside)

4. Location of Controls

5. Self-Diagnosis Function and Service Mode

5.1. Self-diagnosis function and service mode

Each results of self-diagnosis function and service mode is displayed on the LCD of AV control receiver (SA-DT300). / When using these function, confirm the unit to be connected by system cable.

Improving the self-diagnosis function
The self-diagnosis function in our DVD player currently in use is improved as follow:

Our DVD player currently in use	Our new DVD player	Remarks
UHF error display / The latest error storage / n=1	UHF error display / The latest error storage / n=20	The storage capacity is increased.
Jitter/read error display	Jitter/read error display / Focus drive value display	The focus drive current value can be displayed.
Laser drive current display for DVD	Laser drive current display for DVD/CD	
----------	ADSC internal RAM data display	The servo learning value stored in the RAM data inside the ADSC (servo controller) IC is displayed.
----------	Total operation time display, SP motor, Laser (DVD/CD)	The operation times of SP motor and the laser (both for the DVD and CD) can be displayed.

5.2. Service mode table

Pressing various button combinations on the player and remote control unit can activate the service modes.

Item	Player mode and button combination	Function	Display	Cancellation method
Jitter check	In PLAY mode, press “STOP” button on the player and “5” button on the remote control unit.	Jitter check / Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be readout, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jumpby two or more.	J*1 _xxx*2 _yyy*3 _zz*4 / *1 : Jitter check display mode / *2 : Jitter rate / *3 : Readerror counter / *4 : Focus drive value Jitter rate is shown in decimal notation to one place of decimal. Focus drive value is shown in hexadecimal notation.	Press “STOP” button.

Item	Player mode and button combination	Function	Display	Cancellation method
Error code check	Press “STOP” button on the player and “0” button on the remote control unit.	Error code check / The latest error code stored in EEPROM is displayed.	Error code (play_err) is expressed in the following convention. Error code=0xDAXX is expressed → DVD nn UXX Error code=0xDBXX is expressed → DVD nn HXX Error code=0xDXXXis expressed → DVD nn FXXX Error code=0x0000 is expressed → DVD nn F--- Error code except above → DVD nn XXXX *nn denotes the serial number of history.	Cancelled automatically 5 seconds later.
Initial setting of laser drive current	In STOP mode, press “STOP” button on the player and “PAUSE” button on the remote control unit.	Initial setting of laser drive current / Initial current value for each of DVD and CD laser is separately saved in EEPROM.	LD0*1 _034*2 _028*3 / *1 : Laser current measurement mode / *2 : DVD laser current measurement / *3 :CD laser current measurement The value denotes the current in decimal notation. The above example shows the initial current is 34 mA and 28 mA for DVD and CD laser.	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
DVD laser drive current measure- / ment	In STOP mode, press “STOP” button on the player and “OSD” button on the remote control unit.	DVD laser drive current measurement / DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, DVD laser emission is kept on. Itis turned off when Standby/on key is switched off. (It is also turned off when the primary power is switched off.)	LDD*1 _034*2 _032*3 / *1 : DVD laser current measurement mode / *2 : Initial current stored in EEPROM / *3 :Measured current The value denotes the current in decimal notation. The above example shows the initial current is 34 mA and the measured value is 32 mA.	Cancelled automatically 5 seconds later.
ADSC internal RAM data check	Press “STOP” button on the player and “1” or “2” buttons on the remote control unit.	ADSC internal RAM data check / ADSC internal RAM data is read out and displayed. / Change the address with “CANCEL” key operation to show the data for 11 addresses.	A*1 _0FA*2 _6901*3 / *1 : ADSC internal RAM data check mode / *2 : Address / *3 : RAM data for specifiedaddress The value is shown in hexadecimal notation. The above example shows the data in ADSC address 0FAh is 6901h.	Press “STOP” button.

Item	Player mode and button combination	Function	Display	Cancellation method
CD laser drive current measure- / ment	In STOP mode, press “STOP” button on the player and “3” button on the remote control unit.	CD laser drive current measurement / CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM. After the measurement, CD laser emission is kept on. It isturned off when Standby/ on key is switched off. (It is also turned off when the primary power is switched off.)	LDC*1 _028*2 _026*3 / *1 : CD laser current measurement mode / *2 : Initial current stored in EEPROM / *3 :Measured current The value denotes the current in decimal notation. The above example shows the initial current is 28 mA and the measured value is 26 mA.	Cancelled automatically 5 seconds later.
User / initialization	In STOP mode, press / “STOP” button on the / player and “≧10” / button on the remote / control unit.	User initialization / User setting are cancelled and player is initialized to factory setting.	“INITIALIZED”	
Region display	In STOP mode, press “STOP” button on the player and “6” button on the remote control unit.	Region display	x*1 _yy*2 _zzz*3 / *1 : Region No. / *2 : Video output format / NN; NTSC / PN; PAL (When playing NTSC disc:NTSC) / P6;PAL (When playing NTSC disc: PAL60) / *3 : Model setting code	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Microcomputer / & firmware / version / display	In STOP mode, Press / “STOP” button on the / player and “7” button on / the remote control unit.	Microcomputer & firmware version / display	xxxx*1 _50yyyy*2 / *1 : Microcomputer version / *2 : Firmware version	Cancelled / automatically 5 / seconds later.
Region & / firmware / version display	In STOP mode, press / “STOP” button on the / player and “8” button on / the remote control unit.	Region & firmware version display	x*1 _50yyyy*2 / *1 : Region No. / *2 : Firmware version	Cancelled / automatically 5 / seconds later.
Timer 1 check	In STOP mode, press “STOP” button on the player and “▲” button on the remote control unit.	Timer 1 check / Laser operation timer. Operation time is measured separately for DVD and CD laser.	T1_1234_5678 / Shown to the left is DVD laser time, and to the right is CD laser time. / Time is shown in 4 digits of decimal notation in a unit of 10 hours. / “0000” will follow “9999”.	Cancelled automatically 5 seconds later.

Item	Player mode and button combination	Function	Display	Cancellation method
Timer 1 reset	While displaying Timer 1 data, press “STOP” button on the player and “ ” button on the remote control unit.	Timer 1 reset / Laser operation timer. Operation time is reset all at once for DVD and CD laser.	T1_0000_0000	Cancelled automatically 5 seconds later.
Timer 2 check	In STOP mode, press “STOP” button on the player and “ ” button on the remote control unit.	Timer 2 check / Spindle motor operation timer.	T2_1234 / Time is shown in 4 digits of decimal notation in a unit of 10 hours. / “0000” will follow “9999”.	Cancelled automatically 5 seconds later.
Timer 2 reset	While displaying Timer 2 data, press “STOP” button on the player and “ ” button on the remote control unit.	Timer 2 reset / Spindle motor operation timer.	T2_0000	Cancelled automatically 5 seconds later.

5.3. DVD error code display

Error Code	Error Content	Additional error explanation	Defect 1	Defect 2	Defect 3
U, H error					
U11	**Focus error**				
H01	**Tray loading error**				
H02	**Spindle servo error**	**(Spindle servo, DSC SP motor, CLV servo error)**			
H03	**Traverse servo error**				
H04	**Tracking servo error**				
H05	**Seek error**				
H06	**Power error**	**Cannot switch off the power because of the panel and system computer communication error**			
DSC related					
F500	**DSC error**	**DSC stops in the occurrence of servo error / (startup, focus error, etc.)**	**OPU**	**ADSC**	**FEP**
F501	**DSC not Ready**	**DSC-system computer communication error / (Communication failure caused by idling of DSC)**	**ADSC**	**CPU**	
F502	**DSC Time out error**	**Similar disposal as F500**	**OPU**	**ADSC**	**FEP**
F503	**DSC communication / Failure**	**Communication error (result error occurred / although communication command was sent)**	**ADSC**	**FEP**	**EEPROM**
F505	**DSC Attention error**	**Similar disposal as F500**	**OPU**	**ADSC**	**FEP**
F506	**Invalid media**	**Disc is flipped over, TOC unreadable, / incompatible disc**	**DISC**	**FEP**	**ADSC**
ODC related					
F600	**Access failure to / management / information caused by / demodulation error**	**Operation stopped because navigation data is not accessible caused by the demodulation defect**	**ODC**	**FEP**	**ADSC**
F601	**Indeterminate sector ID requested**	**Operation stopped caused by the request to / access abnormal ID data**	**ODC**	**FEP**	**ADSC**
F602	**Access failure to / LEAD-IN caused by / demodulation error**	**LEAD IN data unreadable**			

Error Code	Error Content	Additional error explanation	Defect 1	Defect 2	Defect 3
F603	Access failure to / KEYDET caused by / demodulation error	Access failure to CSS data of disc			
F610	ODC abnormality	No permission for command execution	ODC		
F611	6626 QCODE don't / read error	Access failure to seek address in CD series	ODC		
F612	No CRC OK for a / specific time	Access failure to ID data in DVD series	ODC		
F630	No reply to KEY DET / enquiry	(for internal use only)			
F631	CPPM KEY DET is not available till the FILE terminal	CPPM file system is unreadable caused by / scratches	DISC	CPPM	
F632	CPPM KEY DET is not available	Been revoked or falsified	DISC	EEPROM	CPPM
Disc code					
F103	Illegal highlight position	Every possibility of disc specification violation / during highlight display	DISC		
IIC error					
F4FF	Force initialize failure / (time out)		EEPROM	CPU	FEP
Microcomputer error					
F700	MBX overflow	When replying message to disc manager	Firmware bug		
F701	Message command / does not end	Next message is sent before replying to disc / manager	Firmware bug		
F702	Message command / changes	Message is changed before it is sent as a reply to disc manager	Firmware bug		
F880	Task number is not / appropriate	Message coming from a non-existing task (Stop the operation by error, need to correct / firmware bug)	Firmware bug		
F890	Sending message when message is being sent to AV task	Sending message to AV task (Stop the operation by error, need to correct / firmware bug)	Firmware bug		
F891	Message could not be / sent to AV task	Begin sending message to AV task (Stop the operation by error, need to correct / firmware bug)	Firmware bug		

Error Code	Error Content	Additional error explanation	Defect 1	Defect 2	Defect 3
F893	FROM falsification		FROM	CPU	
F894	EEPROM abnormality		EEPROM	Serial / communi - / cation line	
F8A0	Message command is / not appropriate	Begin sending message to AV task (Stop the operation by error, need to correct / firmware bug)	Firmware bug		

5.4. Self-diagnosis function for the part of loading mechanism

5.4.1. How to display

1. Turn on the power.
2. Press “SELECT” button to select DVD.
3. With no disc on the unit, hold down “STOP” button for at least 2 seconds, and then press “ ▶ ” button for at least 2 seconds.
4. A loading mechanism error code is displayed if any. Refer to Table 5-1. If there are multiple error, they can be successively by pressing “STOP” button.

5.4.2. Canceling self-diagnosis function

- Press the Standby/on button to turn off. And then press the Standby /on button again to turn it on again.
- The contents of self-diagnosis function are stored in memory. To re-display, perform the procedures “How to display”.

5.4.3. Clearing self-diagnosis function

- After repairing, continue to press “STOP” button for at least 5 seconds. And then “CLEAR” is displayed on the LCD about 2 seconds. / (Clearing the contents of self-diagnosis function)
- Always be sure to clear memories after completing repair.

Table 5-1

Display code	Symptom	Cause
H15	When the disc tray opens, it closes by itself.	Disc tray open/close detect switch (S1001) fault. / (Check and replace)
H16	When the disc tray closes, it opens by itself.	

Error code	Error Content	System computer	Setting task	System computer internal error code
F0BF	6) Cannot playback because physical layer is not recognizable	PCND_NOPLAY PHYSICAL 0x50	DriveManager	0xD0BF
F0C0	8) DVD: Cannot playback because it is not DVD Video/Audio/VR	PCND_NOPLAY VIDEO 0x70	DiscManager	0xD0C0
F0C1	9) DVD: Prohibited by the restricted region code	PCND_NOPLAY RCD 0x80	DiscManager	0xD0C1
F0C2	A) DVD: PAL restricted playback	PCND_NOPLAY PAL 0x90	DiscManager	0xD0C2
F0C3	B) DVD: Parental lock setting prohibits the playback of the entire title	PCND_NOPLAY PTL 0xA0	DiscManager	0xD0C3
F0C4	C) VCD: Prohibited because it is in PHOTO CD format	PCND_NOPLAY PHOTO CD 0xB0	DiscManager	0xD0C4
F0C5	D) VCD/CD: Prohibited because it is CD-ROM without CD-DA	PCND_NOPLAY CDROM 0xC0	DiscManager	0xD0C5

5.6. ADSC internal RAM data display

The servo learning value in the RAM data inside the servo processor ADSC is displayed. The value is useful for the servo operation/disc quality judge including the OPU. The concrete contents are shown below.

Address	Content of display
4B4	Focus gain learning value for DVD-S, DVD-D(L0), CD and VCD
4BC	Focus gain learning value for DVD-D(L1)
4B6	Focus balance learning value for DVD-S, DVD-D(L0), CD and VCD
4BE	Focus balance learning value for DVD-D(L1)
4B5	Tracking gain learning value for DVD-S, DVD-D(L0), CD and VCD
4BD	Tracking gain learning value for DVD-D(L1)
TB0	Tracking balance learning value for DVD-S, DVD-D(L0), CD and VCD
TB1	Tracking balance learning value for DVD-D(L1)
DBD	DSL offset learning value for DVD-S and DVD-D
DBC	DSL offset learning value for CD and VCD
FC0	Equalizer FC value for DVD-S, DVD-D(L0), CD and VCD
BT0	Equalizer BOOST value for DVD-S, DVD-D(L0), CD and VCD
FC1	Equalizer FC value for DVD-D(L1)
BT1	Equalizer BOOST value for DVD-D(L1)

5.7. Handling after completing repairs

Perform the following procedures after completing repairs.

1. Close the disc tray to press “ ⏏ ” button.
2. Turn off the power to press “Standby/on” button.
3. Disconnect an AC cord from the outlet.

5.7. Handling after completing repairs

Perform the following procedures after completing repairs.

1. Close the disc tray to press “ ⏏ ” button.

2. Turn off the power to press “Standby/on” button.

3. Disconnect an AC cord from the outlet.

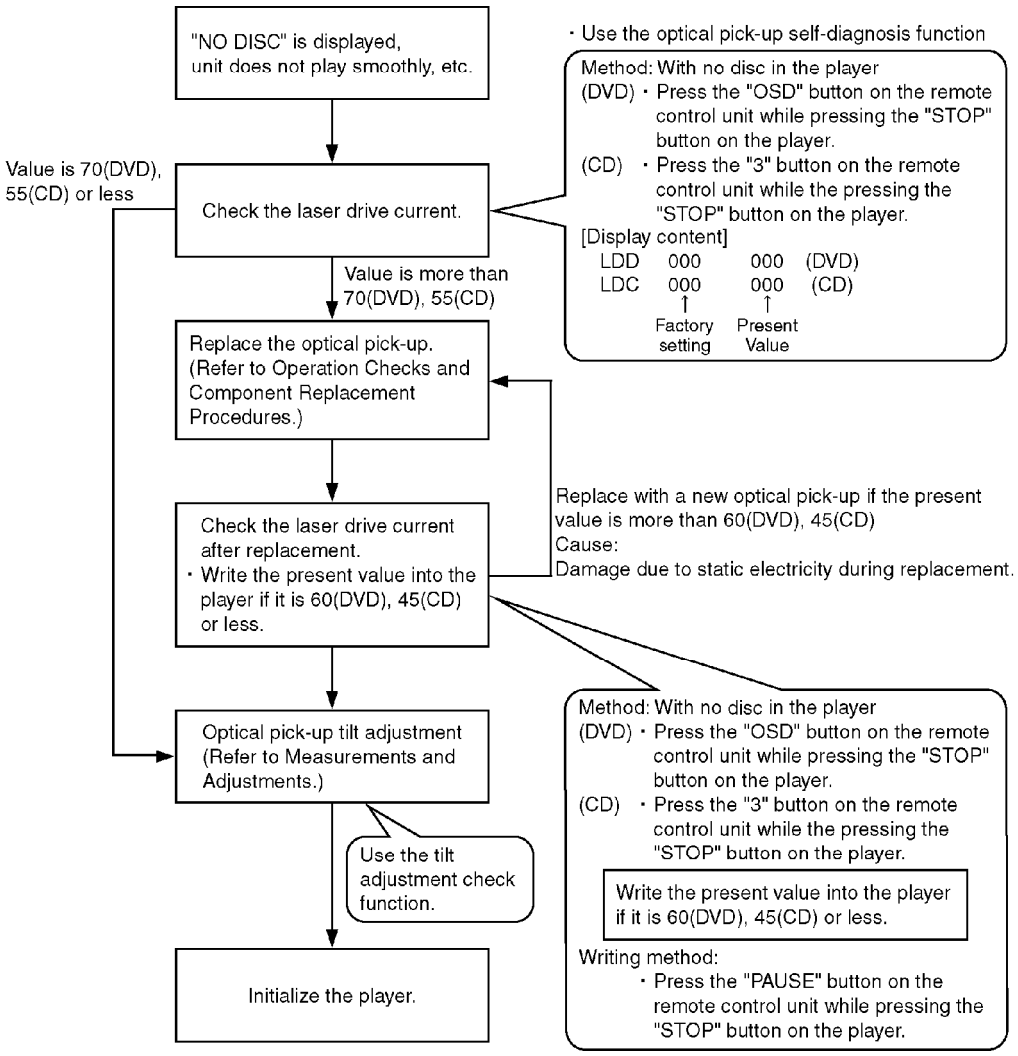
Note:
Do not disconnect an AC cord from the outlet with the disc tray is still opens, then close the disc tray manually.

6. Optical Pick-up Self-Diagnosis and Replacement / Procedure

6.1. Self-diagnosis

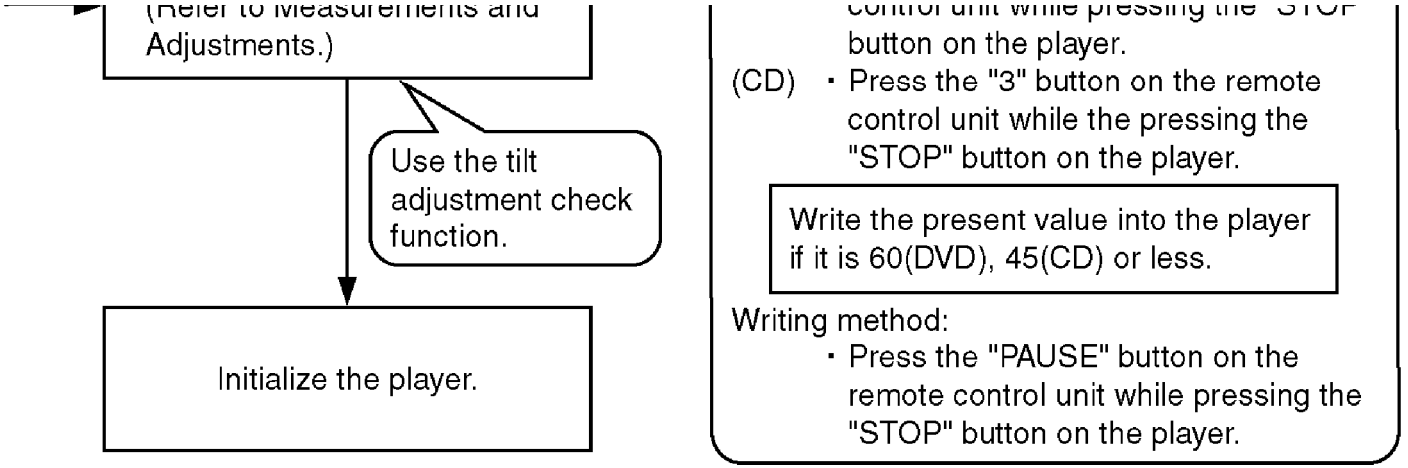
The optical pick-up self-diagnosis function and tilt adjustment check function have been included in this unit. When repairing, use the following procedure for effective self-diagnosis and tilt adjustment. Be sure to use the self-diagnosis functionbefore replacing the optical pick-up when “NO DISC” is displayed. As a guideline, you should replace the optical pick-up when the value of the laser drive current is more than 70(DVD), 55(CD).

Note:
Press the Standby/on button to turn on the power, and check the value within three minutes before the unit warms up. (Otherwise, the unit will be incorrect.)


"NO DISC" is displayed, unit does not play smoothly, etc.
Check the laser drive current.
Value is 70(DVD), 55(CD) or less
Value is more than 70(DVD), 55(CD)
Replace the optical pick-up. (Refer to Operation Checks and Component Replacement Procedures.)
Check the laser drive current after replacement.
・Write the present value into the player if it is 60(DVD), 45(CD) or less.
Optical pick-up tilt adjustment (Refer to Measurements and Adjustments.)
Use the tilt adjustment check function.
Initialize the player.
・Use the optical pick-up self-diagnosis function
Method: With no disc in the player
(DVD) ・Press the "OSD" button on the remote control unit while pressing the "STOP" button on the player.
(CD) ・Press the "3" button on the remote control unit while the pressing the "STOP" button on the player.
[Display content]
LDD 000 000 (DVD)
LDC 000 000 (CD)
Factory setting
Present Value
Replace with a new optical pick-up if the present value is more than 60(DVD), 45(CD)
Cause:
Damage due to static electricity during replacement.
Method: With no disc in the player
(DVD) ・Press the "OSD" button on the remote control unit while pressing the "STOP" button on the player.
(CD) ・Press the "3" button on the remote control unit while the pressing the "STOP" button on the player.
Write the present value into the player if it is 60(DVD), 45(CD) or less.
Writing method:
・Press the "PAUSE" button on the remote control unit while pressing the "STOP" button on the player.

6.2. Caution to be used before replacing the optical pick-up unit and spindle motor assembly

Before replacing the optical pick-up unit and spindle motor assembly, check the total using hours for each of them. The checking method is as follows:


(Refer to Measurements and Adjustments.)
Use the tilt adjustment check function.
Initialize the player.
control unit while pressing the "STOP" button on the player.
(CD) ・Press the "3" button on the remote control unit while the pressing the "STOP" button on the player.
Write the present value into the player if it is 60(DVD), 45(CD) or less.
Writing method:
・Press the "PAUSE" button on the remote control unit while pressing the "STOP" button on the player.

6.2. Caution to be used before replacing the optical pick-up unit and spindle motor assembly

Before replacing the optical pick-up unit and spindle motor assembly, check the total using hours for each of them. The checking method is as follows:

Item	Play mode and button combination	Display
Using hours of DVD and CD laser	**Press “▲” button on the remote control unit while pressing the “STOP” button on the player.**	**T1_xxxx_yyyy / xxxx(DVD), yyyy(CD): Time is shown in 4 digits of decimal notation in a unit of 10 hours.**
Using hours of spindle motor	**Press “▶” button on the remote control unit while pressing the “STOP” button on the player.**	**T2_xxxx / xxxx: Time is shown in 4 digits of decimal notation in a unit of 10 hours.**
Resetting using hours of DVD and CD laser	**Press “▼” button on the remote control unit while pressing the “STOP” button on the player.**	**T1_0000_0000**

Item	Play mode and button combination	Display
Resetting using hours of spindle motor	Press “ ◀ ” button on the remote control unit while pressing the “STOP” button on the player.	T2_0000

6.2.1. Caution to be taken when replacing the optical pick-up

The optical pick-up may break down due to the static electricity of human body. Take proper protection measures against static electricity before repairing the parts around the optical pick-up. Refer to “Handling Precaution for TraverseDeck”.

- Do not touch the area around the laser diode and actuator.

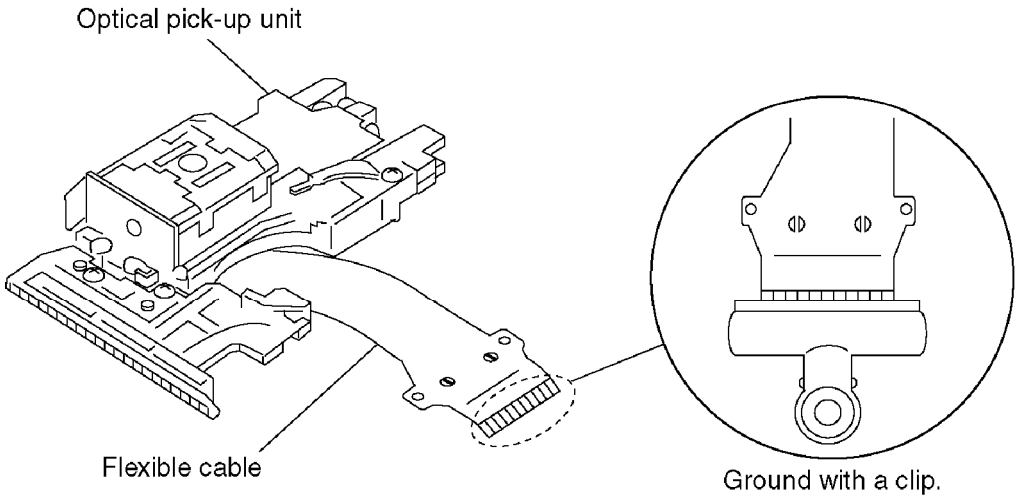
- Do not judge the laser diode with a tester.

- It is recommended to use an antistatic soldering iron for short-circuit or removing the laser diode. /
(Recommended soldering iron) HAKKO ESD Product

- Solder the land of the flexible cable in the optical pick-up.

Note:

When using a soldering iron which is not antistatic, short-circuit the terminal of the flexible cable first. After that, short the land.



7. Measurements and Adjustments

7.1. Service tool and equipment

Applications	Parts Name	Parts Number
Tilt adjustment	DVD test disc	DVDT-S15 or DVDT-S01
	Hexagonal wrench	Commercially available (2mm)
Inspection	Extension cable (22 pin)	JGS0116
	Extension cable (26 pin)	JGS0098
Others	Screw lock	RZZ0L01
	Grease	JGS0091,JGS0092
Confirmation	CD test disc	PVCD-K06 or any other / commercially available disc.
	VCD test disc	
	Recovery disc	RFKZD5TR006

7.2. Important points in adjustments

7.2.1. Important points in optical adjustments

- Before starting optical adjustment, be sure to take an antistatic measures.

- Optical pick-up tilt adjustment is needed after replacement of the following components.

1. Optical pick-up unit

2. Spindle motor unit

3. Optical pick-up peripheral parts (such as rail)

Remarks:
Adjustment is generally unnecessary after replacing other parts of traverse unit. However, make

an adjustment if there is noticeable degradation in picture quality. Optical adjustments cannot be made inside the optical pick-up. Adjustment is generally unnecessaryafter replacing the traverse unit.

7.3. Storing and handling test discs

Surface precision is vital for DVD test discs. Be sure to store and handling them carefully.

- Do not place discs directly onto the workbench etc., after use.
- Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in cool place where they are not exposed to direct sunlight or air from air conditioners.
- Accurate adjustment will not possible if the disc is warped when placed on a surface made of glass etc.. If it is warped, use a new test disc to make optical adjustments.
- If adjustment is performed with a warped disc, the adjustment will be incorrect and some discs will not be playable.

7.4. Optical pick-up adjustment

7.4.1. Optical pick-up tilt adjustment

Measurement point	Adjustment point	Mode	Disc
	Tangential adjustment screw / Tilt adjustment screw	T1 (inner periphery) play / T43 (outer periphery) play	DVDT-S15 or DVDT
Measurement equipment		Adjustment value	
None (Use the LCD indication on SA-DT300.)		Adjust the jitter value to the minimum level.	

7.4.1.1. Adjustment procedures

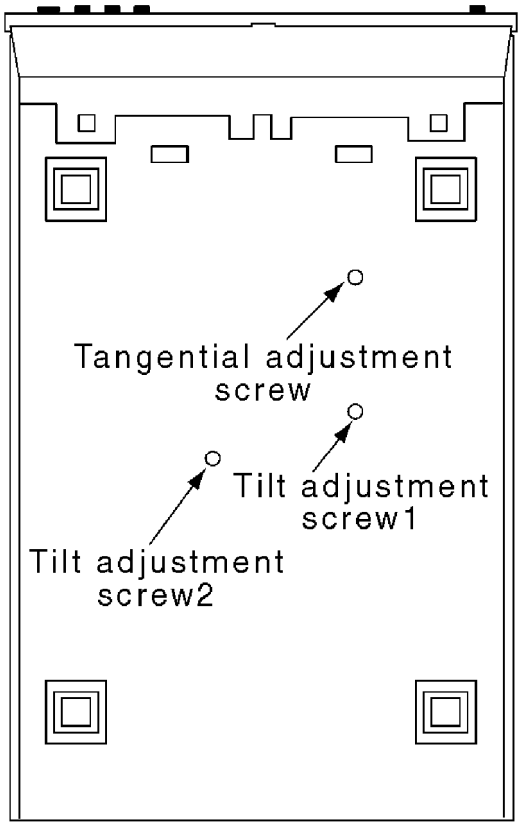
1. While pressing “STOP” button on the player, press “5” button on the remote control unit.
2. Confirm that “J_xxx_yyy_zz” is shown on the display of the AV control receiver (SA-DT300).

For your reference:
“yyy” and “zz” shown to the right have nothing to do with jitter value. “yyy” is the error counter, while “zz” is the focus drive value.

Note:
Jitter value appears on the display of the AV control receiver (SA-DT300).

3. Play test disc T1 (inner periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized. Refer to Fig. 7-1 .
5. Play test disc T43 (outer periphery).
6. Adjust tilt adjustment screw1 so that the jitter value is minimized. Refer to Fig. 7-1 .
7. Play test disc T43 (outer periphery).
8. Adjust tilt adjustment screw2 so that the jitter value is minimized. Refer to Fig. 7-1 .
9. Repeat adjusting tilt adjustment screw1 and 2 alternately until the jitter value is minimized.

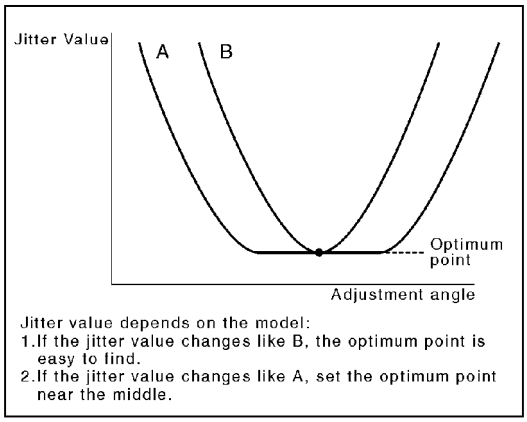
Fig. 7-1



7.4.1.2. Important point

1. Make tangential adjustment first, and then make tilt adjustment.
2. Repeat adjusting two or three times to find the optimum point.

3. Finish the procedure with tilt adjustment.


Jitter Value
A
B
Optimum point
Adjustment angle
Jitter value depends on the model:
1.If the jitter value changes like B, the optimum point is easy to find.
2.If the jitter value changes like A, set the optimum point near the middle.

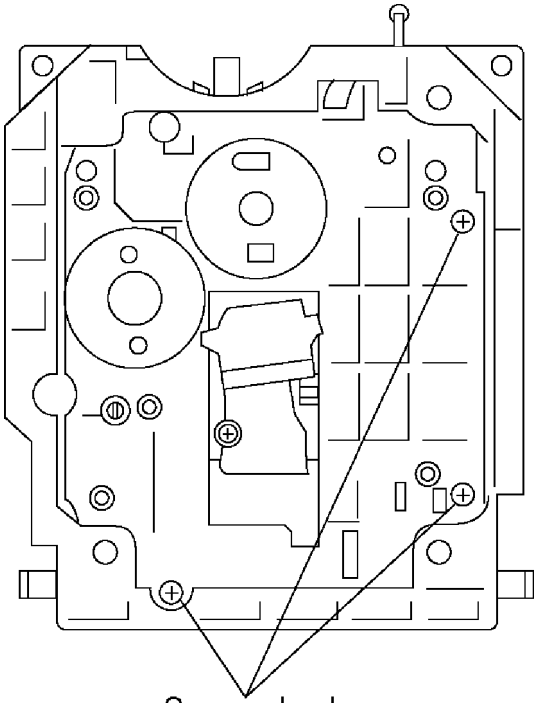
7.4.1.3. Check after adjustment

Play test disc or any other disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping. After adjustment is finished, lock each adjustment screws in position using screw lock.

7.4.1.4. Procedure for screw lock

1. After the adjustment is performed, reassemble top cover, clamper base, disc tray and traverse unit.
2. Lay the traverse unit upside down, fix adjustment screw with screw lock. Refer to Fig. 7-2 .
3. After fixing, assemble traverse unit, disc tray, clamper base, top cover.

Fig. 7-2



7.5. Electrical confirmation

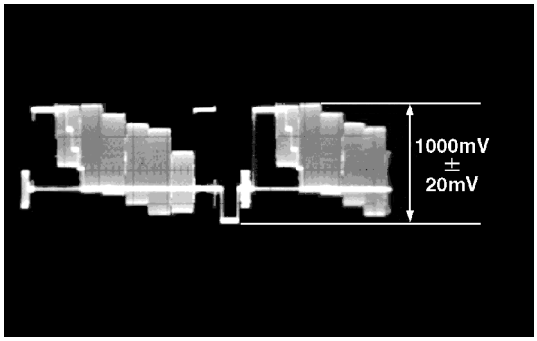
Perform this confirmation after replacing P.C.B.

7.5.1. Video output (luminance signal) confirmation

Measurement point	Mode	Disc
Video output terminal	Color bar 75% / PLAY(Title 46): DVDT-S15 / PLAY(Title 12): DVDT-S01	DVDT-S15 or DVDT-S01
Measurement equipment	Confirmation value	
Oscilloscope / 200mV/ div10 μ sec/div	1000mVp-p±20mV	

Purpose: To maintain video signal output compatibility.

1. **Connect the oscilloscope to the video output terminal and terminate at 75 Ω .**
2. **Confirm that the luminance signal (Y+S) level is 1000mVp-p±20mV.**



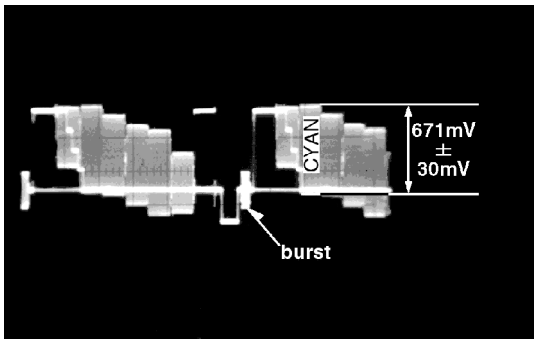
7.5.2. Video output (chrominance signal) confirmation

Measurement point	Mode	Disc
Video output terminal	Color bar 75% / PLAY(Title 46): DVDT-S15 / PLAY(Title 12): DVDT-S01	DVDT-S15 or DVDT-S01
Measurement equipment	Confirmation value	
Oscilloscope / 200mV/ div10 μ sec/div	671mVp-p±30mV	

Purpose: To maintain video signal output compatibility.

1. Connect the oscilloscope to the video output terminal and terminate at 75 Ω .

2. Confirm that the chrominance signal (C) level is 671mVp-p±30mV.



8. New Servicing Method for DVD Player / (5 th generation models)

- With the 5 th generation models, new self-diagnosis function and new servicing method described below are additionally available.

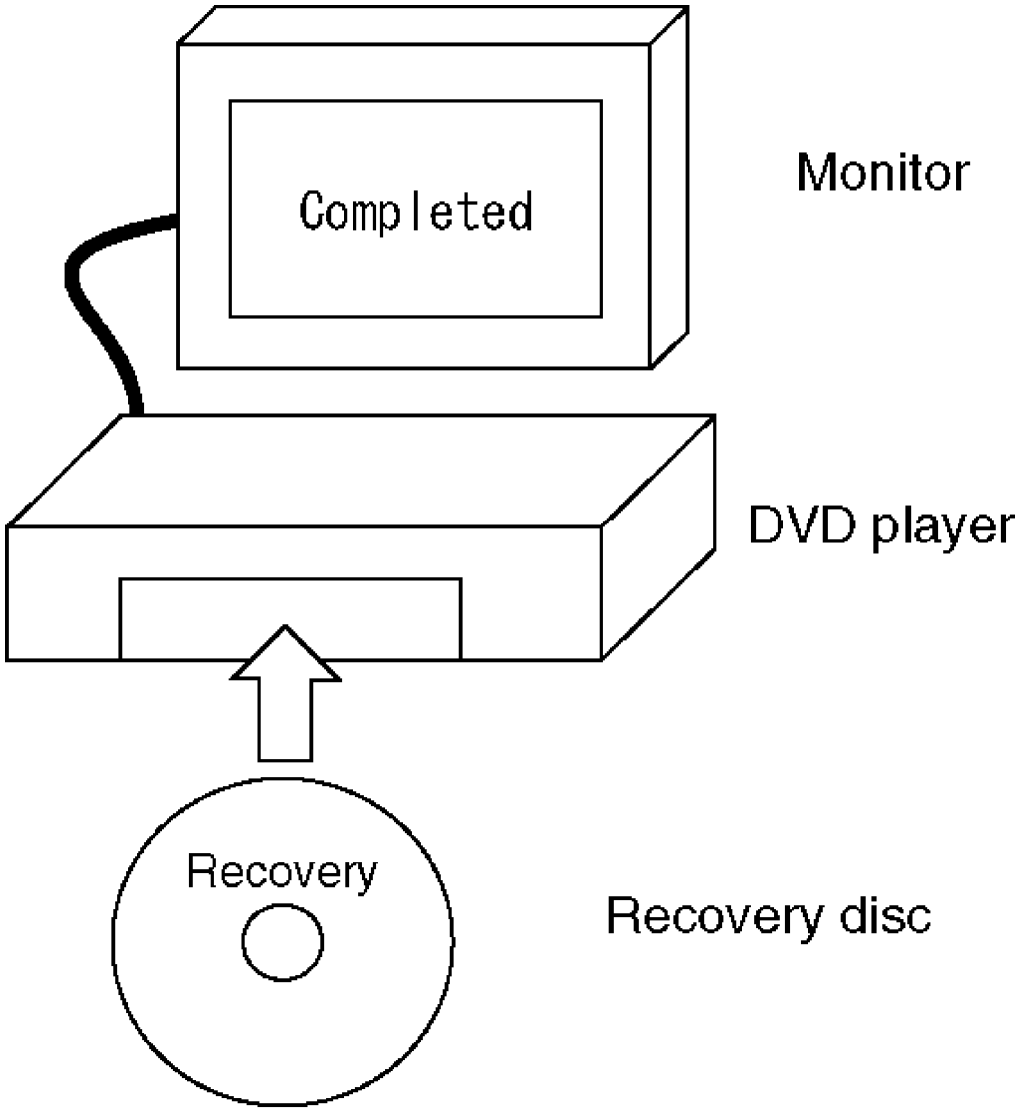
8.1. Firmware updating and recovery with disc

- Recovery

- Firmware updating

Simply run the recovery disc. Then both of the above operations

are automatically performed.
Commercially available CD-R can now perform updating and recovery process, making it easier to update the version.
Recovery process: Optimization of player after replacement of FROM, EEPROM and module P.C.B.
Version updating: Firmware updating for improved operability and performance



8.2. New self-diagnosis function

- Cumulative operation time display function (Spindle motor and DVD/ CD laser)
- ADSC internal RAM display function
- Other: Increased number of last errors storage
1 event → 20 events

Utilization of the above functions, in combination with servicing procedures, is expected to contribute to higher efficiency of fault diagnosis.

[Purposes]
Operation time display function: For fault finding of spindle motor or laser that has limited service life
ADSC internal RAM display function: For faulty part identification in servo system using the learned values

8.3. How to use recovery disc

8.3.1. Performing recovery

1. Load the recovery disc (RFKZD5TR006) on to the player and run it.
2. Recovery is performed automatically. When it is finished, a message appears on the screen.
3. Remove the recovery disc.
4. Turn off the power.

8.3.2. Updating firmware

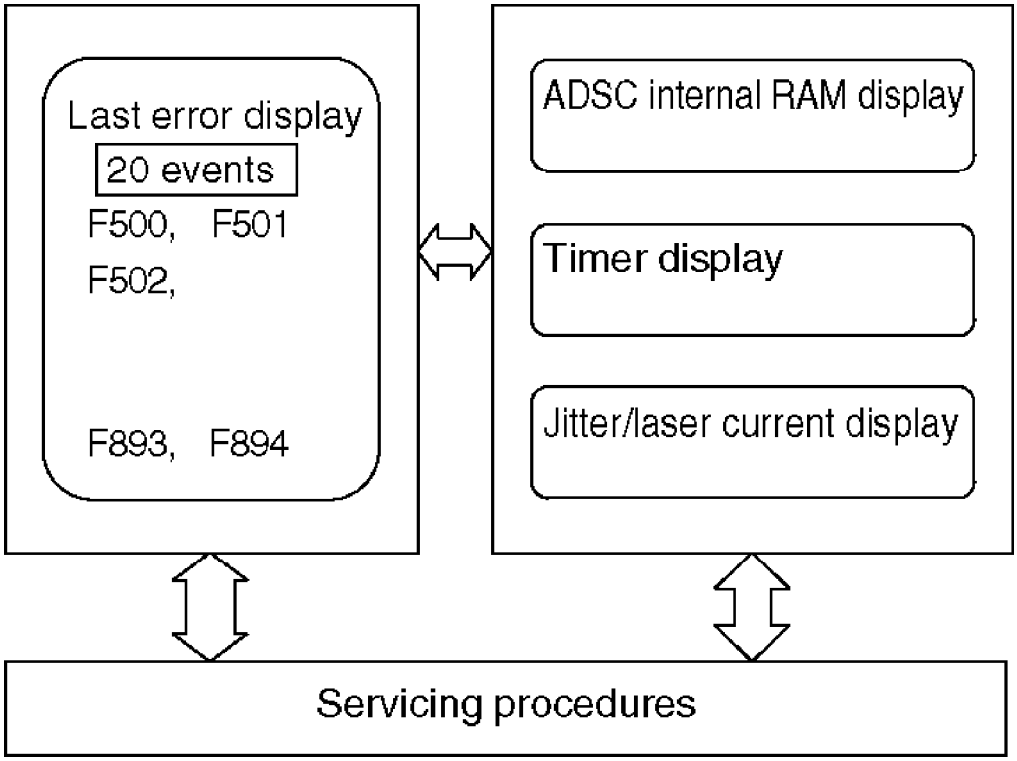
1. Load the recovery disc on to the player and run it.
2. Firmware version of the player is automatically checked. Appropriate message appears whenever necessary.
3. Using remote controller's cursor key, select whether version updating is to be done or not. (Selection of Yes/No)
4. a. If Yes is selected, version updating is performed.
   b. If No is selected, only recovery is performed.
5. a. When updating is finished, remove the disc according to the message appearing on the screen.
   b. Remove the disc according to the message appearing on the screen.
6. Turn off the power.

Note:
- Do not turn off the power during updating.
- In case of error have occurred during updating due to power failure etc., replace the FROM and carry out updating again.

- With the display is being stand-by mode after it is finished, press "▶" button.
- It can be confirmed the version of firmware to turn on and then set the player to service mode after it is updated.

8.4. Fault diagnosis using new self-diagnosis function

The 5 th generation DVD players have the additional new service modes as described above to further reinforce the diagnosis function.
These new functions are unable to bring sufficient results when they are used alone.
Effective fault diagnosis can be expected when multiple diagnostic methods are properly combined in accordance with the servicing procedures depending on specific fault status.



*** New servicing procedures are now under study to match with the newly developed self-diagnosis functions introduced here.**
Details of the new servicing procedures will be informed in turn.

1. Cumulative operation time display function

For spindle motor and DVD/CD laser, the cumulative operation time is displayed.
When servicing, check the timer display and use it as information for fault diagnosis.
At the time of repair and replacement of these components, make sure to check the operation time and reset the timer after

replacement.
Operation time of the replacement parts (spindle motor and laser) is the valuable information as actual data for future product quality.
Please save the records and supply information to us.

2. ADSC internal RAM display function
The function is to display the internal RAM data of ADSC servo processor.
The RAM data are the learned values of drive servo, memorizing those concerning focus and tracking, as well as data slice and equalizer.
*** This function is also a newly developed service mode. Its full utilization is still under study.**

3. Others

- Increased number of last errors stored
1 event → 20 events
- Focus drive value display function

8.5. Overview of each functions

8.5.1. Cumulative operation time display function

1. Operation/display

DVD/CD laser operation time
Unit: 10 hours in decimal notation

Spindle motor operation time
Unit: 10 hours in decimal notation

Key operations are as follows.
Laser operation time.....In STOP mode, main unit “STOP” button and remote control “▲” button
Spindle motor operation time.....In STOP mode, main unit “STOP” button and remote control “▶” button
To reset the timer, perform the following while displaying the time with above key operation.
Laser operation time.....In STOP mode, main unit “STOP”

button and “ ▼ ” button
Spindle motor operation time.....In STOP mode, main unit “STOP” button and remote control “ ◀ ” button

2. How to utilize
Reference information in fault diagnosis of laser or spindle motor system
Review of faulty point in repeated repair

8.6. Service Precautions

8.6.1. Recovery after the DVD player is repaired

When a FROM or an EEPROM in and on the module P.C.B. has replaced, carry out the recovery disc processing to optimize the drive.
Playback the disc below to process the recovery automatically,
Recovery disc (Product number: RFKZD5TR006)

Note:
This unit requires no initialization process carried out after the traditional DVD players were repaired.
When the recovery measure are taken, the customer setting will return to the factory setting as same as the procedure described in item of “User Initialization” in 5.2. is carried out. Write down the contents of the setting beforerecovery processing, and reset the player.

8.6.2. Firmware version-up of the DVD player

The firmware of the DVD player may be renewed to improve the quality including operability and playback ability to the substandard discs.
The version-up disc has also a recovery function so that you don’t need use the recovery disc again.

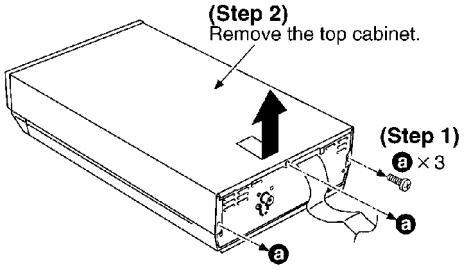
Note:
If the AC power supply is shut out during version-up due to a power failure, the version-up is improperly carried out.
In such a case, replace the FROM and carry out the version-up again.
The product number of the version-up disc will be noticed when it is supplied.

9. Operation Checks and Components Replacement / Procedure

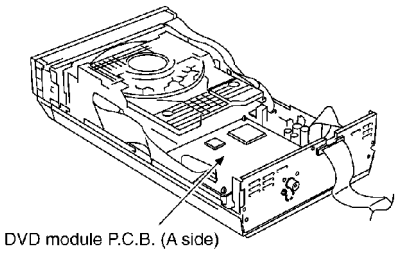
- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the

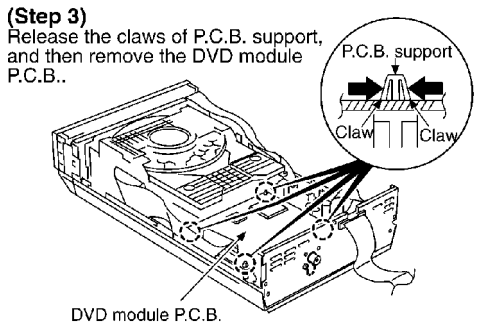
respective procedures. Special reassembly procedures are described only when required.

9.1. Checking for the DVD module P.C.B.

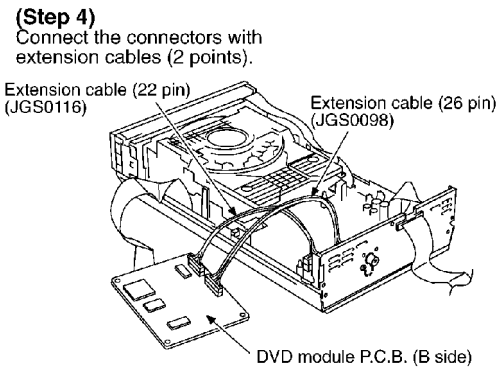


- Check the DVD module P.C.B. (A side) as shown below.



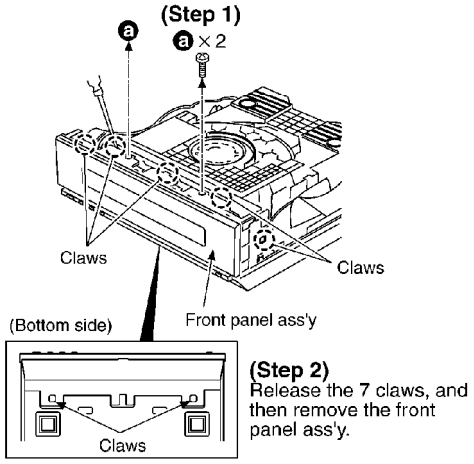


- Check the DVD module P.C.B. (B side) as shown below.

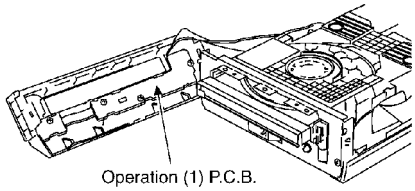

(Step 4)
Connect the connectors with extension cables (2 points).
Extension cable (22 pin) (JGS0116)
Extension cable (26 pin) (JGS0098)
DVD module P.C.B. (B side)

9.2. Checking for the operation (1) P.C.B.

- Follow the (Step 1) , (Step 2) of item 9.1.



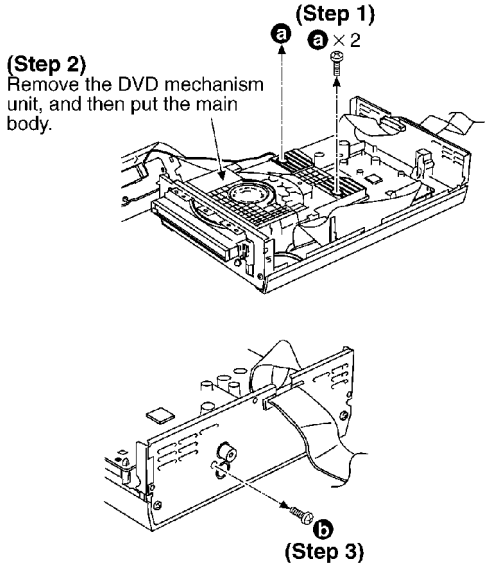
- Check the operation (1) P.C.B. as shown below.

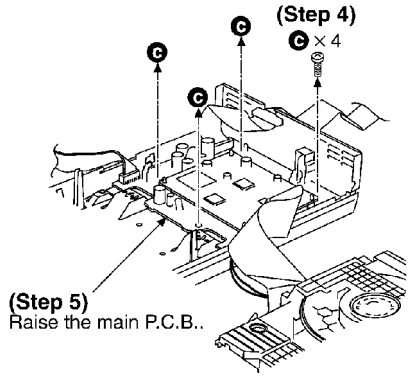


9.3. Checking for the main P.C.B.

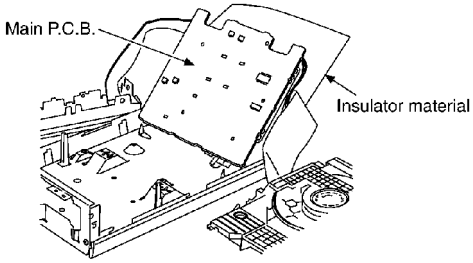
- Follow the (Step 1) , (Step 2) of item 9.1.

- Follow the (Step 1) , (Step 2) of item 9.2.



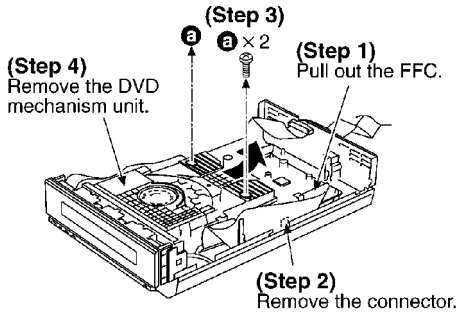


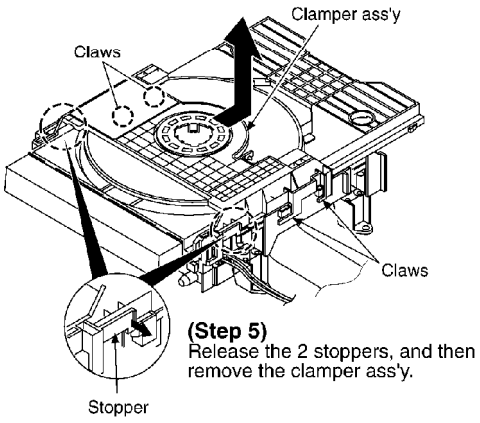
- Check the main P.C.B. as shown below.

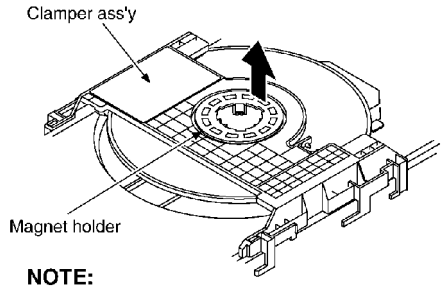


9.4. Replacement for the traverse deck ass'y and optical pick-up

- Follow the (Step 1) , (Step 2) of item 9.1.

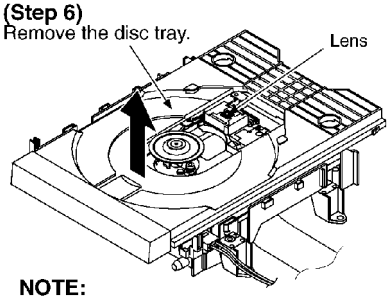






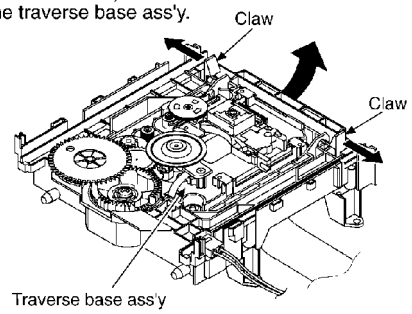
NOTE:
When the traverse base ass'y is up, remove the clamper ass'y after lift up the magnet holder.

(Step 6)
Remove the disc tray.

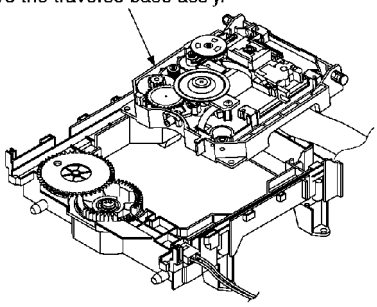


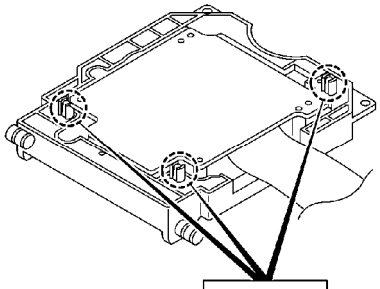
NOTE:
Do not touch the lens of the optical pick-up.

(Step 7)
Release the 2 claws, and then draw the traverse base ass'y.



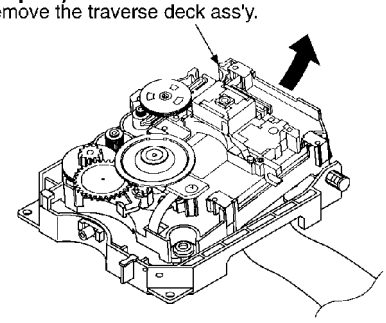
(Step 8)
Remove the traverse base ass'y.



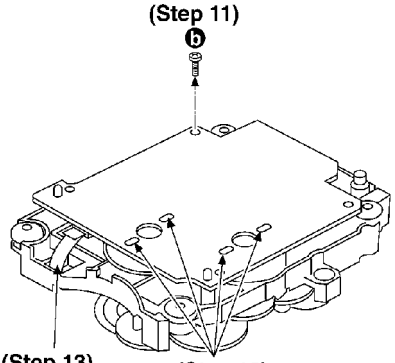


(Step 9)
Release the 2 claws, and then pull out the pin.
(3 points)

(Step 10)
Remove the traverse deck ass'y.



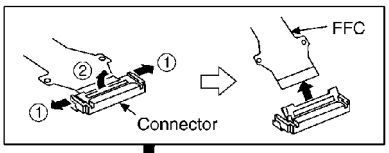
(Step 11)

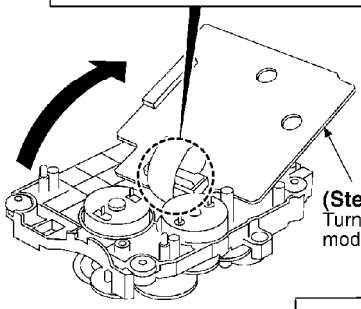


(Step 13)
Pull out the FFC.

(Step 12)
Unsolder the motor terminal
(4 points)

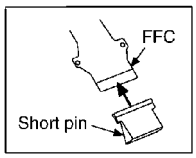
(Step 15)
Remove the FFC from connector.

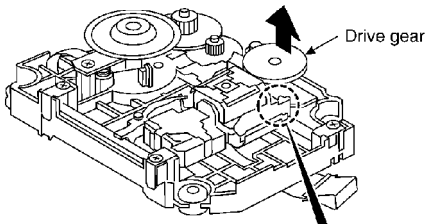




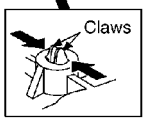
(Step 14)
Turn over the DVD module (2) P.C.B..

NOTE:
Insert a short pin into the FFC.



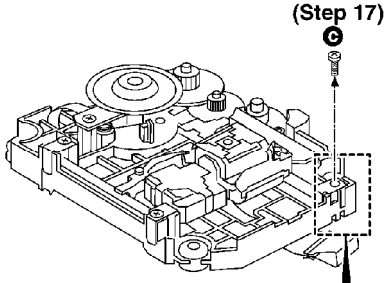


(Step 16)
Release the 2 claws, and then remove drive gear.

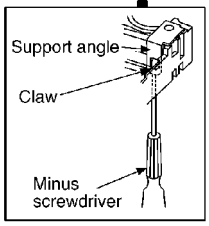


(Bottom side)

(Step 17)

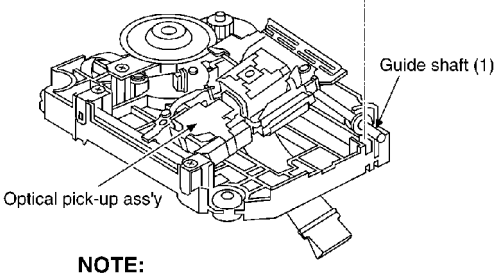


(Step 18)
Release the claw, and then remove the support angle.



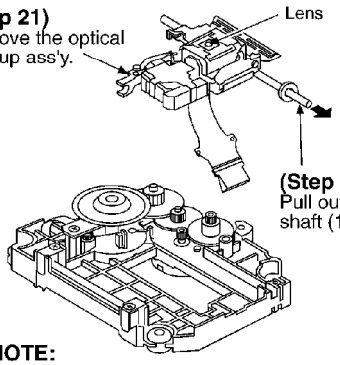
(Step 20)
Lift up the optical pick-up ass'y, and then remove the guide shaft (1) from guide (A).

(Step 19)
Remove the spring.



NOTE:
Take care not to lose the spring.

(Step 21)
Remove the optical pick-up ass'y.

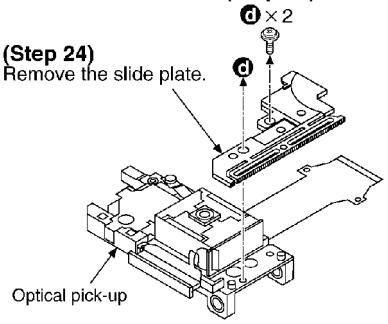


(Step 22)
Pull out the guide shaft (1).

NOTE:
1. Use care to prevent damage the optical pick-up, due to the precision construction.
2. Do not touch the lens of the optical pick-up.

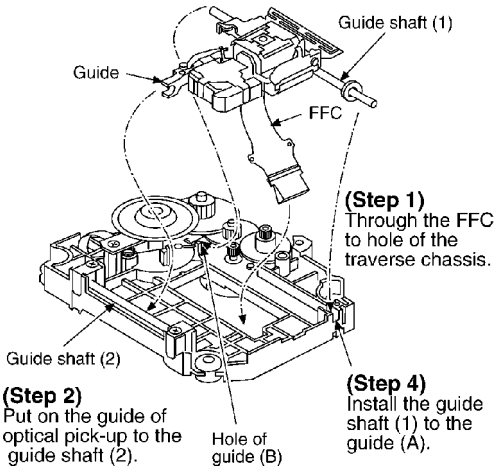
(Step 23)
ⓓ×2

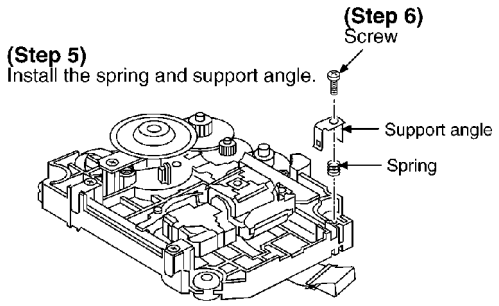
(Step 24)
Remove the slide plate.



Installation of the optical pick-up ass'y

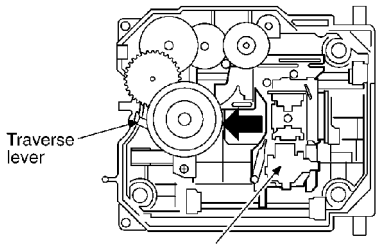
(Step 3)
Install the tip of guide shaft (1) to the hole of guide (B).


Guide shaft (1)
Guide
FFC
(Step 1)
Through the FFC to hole of the traverse chassis.
Guide shaft (2)
(Step 2)
Put on the guide of optical pick-up to the guide shaft (2).
Hole of guide (B)
(Step 4)
Install the guide shaft (1) to the guide (A).



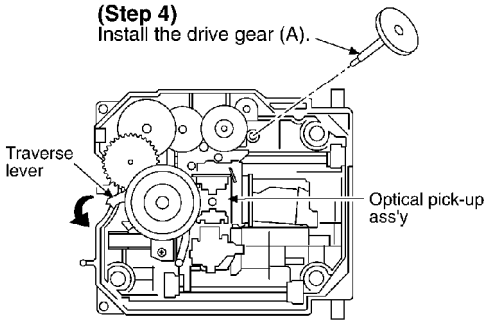
Installation of the traverse base ass'y

(Step 1)
Confirm the traverse lever's position as shown below.



(Step 2)
Slide the optical pick-up ass'y fully in the direction of arrow.

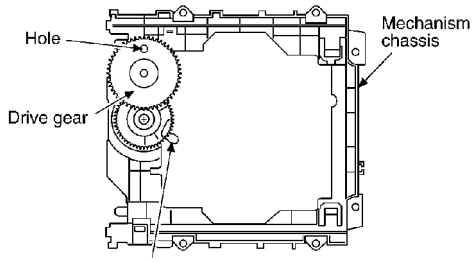
(Step 4)
Install the drive gear (A).



(Step 3)
Slide max the optical pick-up ass'y follow to the arrow. Then confirm the traverse lever would move to the direction of arrow.

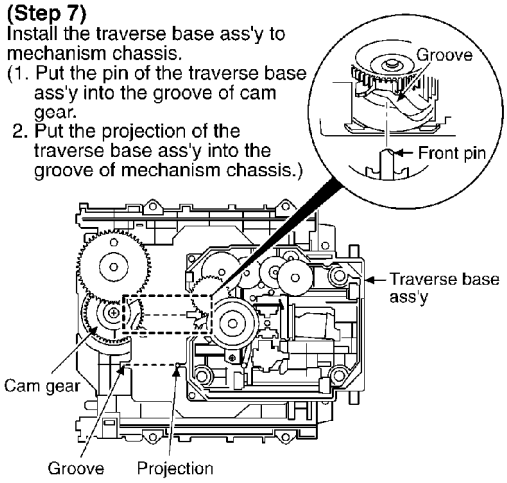
[Preparation of traverse base ass'y is complete]

(Step 5)
Align the hole of drive gear to the hole of mechanism chassis.

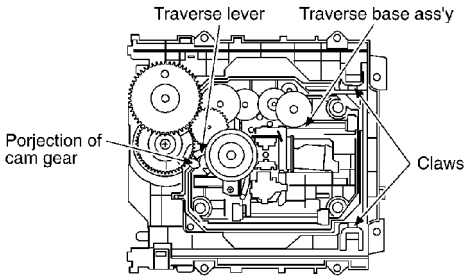


(Step 6)
Set the projection of cam gear as shown above.

(Step 7)
Install the traverse base ass'y to mechanism chassis.
(1. Put the pin of the traverse base ass'y into the groove of cam gear.
2. Put the projection of the traverse base ass'y into the groove of mechanism chassis.)

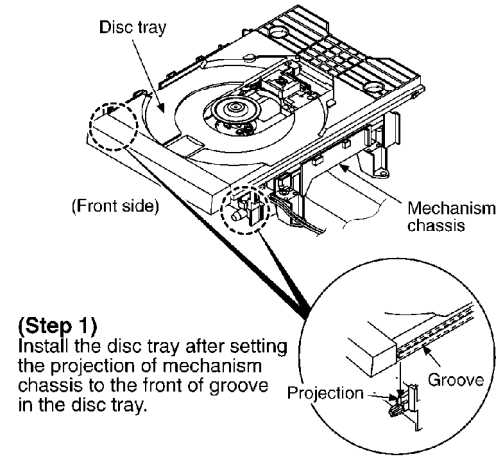


(Step 8)
With pressing the both side of claws in the direction of arrow, force the traverse base ass'y.



(Step 9)
Confirm the traverse lever and projection of cam gear as shown above.

Installation of the disc tray

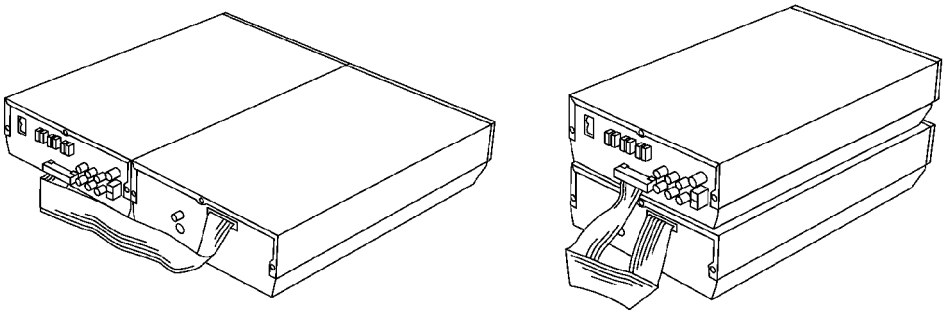


(Step 1)
Install the disc tray after setting the projection of mechanism chassis to the front of groove in the disc tray.

10. To Supply Power Source

This unit is designed to operate on power supplied from system connected. / When a component requires service, use the system connections to supply power source. / For system connections, refer to Fig.10-1.

Fig. 10-1.



11. Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

S601:

Play switch (▶)

S602:

Pause switch (⏸)

S603:

Stop switch (■)

S605:

Open/close switch (⏏)

S1001:

Tray open/close detect switch in OFF position

S2601:

Traverse switch in OFF position

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on theinternal impedance of the DC circuit tester.

No mark

: Stop

( )

: Play

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- The supply part number is described alone in the replacement parts.
- Voltage and signal line

: Positive voltage line

: Audio signal line

: Video signal line

: Video/audio signal line

Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.

12. Schematic Diagram

13. Printed Circuit Board Diagram

14. Type Illustration of ICs, Transistors and Diodes

15. Wiring Connection Diagram

16. Block Diagram

17. Terminal Function of ICs

17.1. IC402 (C2BBFD000350): / System Control

Pin No.	Signal Name	I/O	Description
1	V_{CC}	I	Power supply terminal
2	VREF	I	Reference voltage input
3	AV_{SS}	-	GND
4	SYNC	I	Power failure detect signal input
5	PWCONT	O	DVD module power supply control / signal output
6	LDATA	O	Serial control signal output to LED / driver IC
7	LSTB	O	Serial control signal output to LED / driver IC
8	LCLK	O	Serial control signal output to LED / driver IC
9	LCLR	O	Serial control signal output to LED / driver IC
10	DVD CLK	I	Communication clock signal input from / DVD system control
11	DVD CMD	O	Communication command signal output / for DVD system control
12	DVD STAT	I	Communication status signal input from / DVD system control
13	WIDE2	-	Not used, open
14	WIDE1	O	Wide screen circuit change control / output
15	CNV_{SS}	-	GND
16	TEST	I	Test mode input
17	E-CS	-	Not used, open
18	RESET	I	System reset signal input
19	X IN	I	Oscillation connect terminal (F=8MHz)
20	X OUT	O	
21	V_{SS}	-	GND
22	NC	-	Not used, open
23	MUTE	O	Mute control output
24	OPENSW	I	Disc tray open switch signal input
25	TRAY SW +	I	Disc tray close switch signal input
26	TRAY/ TRV	O	Disc tray/traverse drive change signal / output
27	F IN	O	Motor driver control output
28	R IN	O	Motor driver control output

28	R IN	O	Motor driver control output

Pin No.	Signal Name	I/O	Description
29	TRAYMUT	O	Motor driver mute signal output
30	D WIDE1	O	D terminal wide screen circuit change / control output
31	D WIDE2	-	Not used, open
32	525P MUTE	-	Not used, connected to GND
33	B REQ	I	Serial communication request signal input from system control
34	B CS	O	Serial communication chip select signal output for system control
35	B CLK	O	Serial communication clock signal output for system control
36	DATA O	O	Serial communication data signal output for system control
37	DATA I	I	Serial communication data signal input from system control
38	CS MODEL	I	Model change signal input
39	NC	-	Not used, open
40	KEY2	I	Not used, connected to GND
41	KEY1	I	Operation key signal input
42	CSREG	I	Area select signal input

18. Abbreviations

INITIAL/LOGO		ABBREVIATIONS
A	A0-UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0-UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	AUDIO RF
	ASI	SERVO AMP INVERTED INPUT
	ASO	SERVOAMP OUTPUT
	ASYNC	AUDIO WORD DISTINCTION SYNC
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
	BYTCK	BYTE CLOCK
C	CAV / CBDO	CONSTANT ANGULAR / VELOCITY
	CD	CAP. BLACK DROP OUT
	CDSCK	COMPACT DISC
	CDSRDATA	CD SERIAL DATA CLOCK CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEMCLOCK SELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIPSELECT
	CSYNCIN	COMPOSITE SYNC IN
	CSYNCOUT	COMPOSITE SYNC OUT

INITIAL/LOGO		ABBREVIATIONS
D	DACCK	D/A CONVERTER CLOCK
	DEEMP	DEEMPHASIS BIT ON/OFF
	DEMPH	DEEMPHASIS SWITCHING
	DIG0-UP	FL DIGIT OUTPUT
	DIN	DATA INPUT
	DMSRCK	DM SERIAL DATA READ CLOCK
	DMUTE	DIGITAL MUTE CONTROL
	DO	DROPOUT
	DOUT0-UP	DATA OUTPUT
	DRF	DATA SLICE RF (BIAS)
	DRPOUT	DROP OUT SIGNAL
	DREQ	DATA REQUEST
	DRESP	DATA RESPONSE
	DSC	DIGITAL SERVO CONTROLLER
	DSLF	DATA SLICE LOOP FILTER
	DVD	DIGITAL VIDEO DISC
E	EC	ERROR TORQUE CONTROL
	ECR /	ERROR TORQUE CONTROL /
	ENCSEL	REFERENCE
	ETMCLK /	ENCODER SELECT
		EXTERNAL M CLOCK / (81MHz/
	ETSCLK	40.5MHz)
		EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI /	FOCUS ERROR AMP INVERTED
	FEO	/ INPUT
	FG	FOCUS ERROR AMP OUTPUT
	FSC	FREQUENCY GENERATOR
	FSCK	FREQUENCY SUB CARRIER
		FS (384 OVERSAMPLING)
		CLOCK
G	GND	COMMON GROUNDING
		(EARTH)
H	HA0-UP	HOST ADDRESS
	HD0-UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFLAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT

INITIAL/LOGO		ABBREVIATIONS
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK
M	MA0-UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK /	MEMORY SERIAL COMMAND / CLOCK
	MDATA /	MEMORY SERIAL COMMAND / DATA
	MDQ0-UP	MEMORY DATA INPUT/OUTPUT
	MDQM	MEMORY DATA I/OMASK
	MLD /	MEMORY SERIAL COMMAND / LOAD
	MPEG	MOVING PICTURE EXPERTS GROUP
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1-UP	PORT
	PCD /	CD TRACKING PHASE / DIFFERENCE
	PCK	PLL CLOCK
	PDVD /	DVD TRACKING PHASE / DIFFERENCE
	PEAK	CAP. FOR PEAK HOLD
	PLLCLK	CHANNEL PLL CLOCK
	PLLOK	PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSEWAVE MOTOR DRIVE A
	PWMOA, B	PULSE WAVE MOTOR OUT A, B
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO /	RF PHASE DIFFERENCE / OUTPUT
	RS	(CD-ROM) REGISTER SELECT
	RSEL	RF POLARITY SELECT
	RST	RESET
	RSV	RESERVE

INITIAL/LOGO		ABBREVIATIONS
S	SBCK	SUB CODE CLOCK
	SBI0, 1	SERIAL DATA INPUT
	SB00	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR / SCL	AUDIO SERIAL CLOCK / RECEIVER
	SCLK	SERIAL CLOCK
	SDA	SERIAL CLOCK
	SEG0-UP	SERIALDATA
	SELCLK	FL SEGMENT OUTPUT
	SEN	SELECT CLOCK
	SIN1, 2	SERIAL PORT ENABLE
	SOUT1, 2	SERIAL DATA IN
	SPDI	SERIAL DATA OUT
	SPDO	SERIAL PORT DATA INPUT
	SPEN	SERIAL PORT DATA OUTPUT
	SPRCLK	SERIAL PORT R/W ENABLE
	SPWCLK	SERIAL PORT READ CLOCK
	SQCK	SERIALPORT WRITE CLOCK
	SQCX / SRDATA	SUB CODE Q CLOCK
	SRMADR	SUB CODE Q DATA READ / CLOCK
	SRMDT0-7	SERIAL DATA
	SS	SRAM ADDRESS BUS
	STAT	SRAM DATA BUS 0-7
	STCLK	START/STOP
	STD0-UP	STATUS
	STENABLE / STSEL / STVALID	STREAM DATA CLOCK
	SUBC	STREAM DATA
	SUBQ	STREAM DATA INPUT / ENABLE
	SYSCLK	STREAMDATA POLARITY / SELECT
		STREAM DATA VALIDITY
		SUB CODE SERIAL
		SUB CODE Q DATA
		SYSTEM CLOCK

INITIAL/LOGO		ABBREVIATIONS
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACKCROSS SIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON
V	VBLANK	V BLANKING
	VCC /	COLLECTOR POWER SUPPLY
	VCDCONT	/ VOLTAGE
	/	VIDEO CD CONTROL /
	VDD /	(TRACKING BALANCE)
	VFB	DRAIN POWER SUPPLY /
	VREF	VOLTAGE
	VSS /	VIDEO FEED BACK
		VOLTAGE REFERENCE
		SOURCEPOWER SUPPLY /
		VOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER

INITIAL/LOGO		ABBREVIATIONS
X	X	X' TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPTREQUEST
	XI	X' TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X' TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIPSELECT
	XVDS / XVSYNCO	X V-DEC CONTROL BUS / STROBE
		X VERTICAL SYNC OUTPUT

19. Replacement Parts List

Notes:

- Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

- The marking [RTL] indicates that retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

- The marking <SPC> indicates in Remarks is supplied by Service Parts Center.

- All of other parts are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	REX1118	WIRE ASS'Y	1	
2	REZ1452	FFC(38P)	1	
3	XTB3+10J	SCREW	2	
4	RYF0625-K	DVD LID	1	
5	REX1116	WIRE ASS'Y / (SYSTEM)	1	
6	RGK1502-K	BOTTOM COVER	1	
7	RKA0137-K	RUBBER	4	
8	XTB3+8JFZ	SCREW	10	
9	XTBS3+8JFZ1	SCREW	6	
10	RGK1500A-S	PANEL ORNAMENT	1	
11	RGK1504-S1	BUTTON ORNAMENT	1	
12	RGP0918-K	FRONT PANEL	1	
13	RGU2085-S	BUTTON,PLAY	1	
14	XTBS26+8J	SCREW	4	
15	RKM0463-S	TOP COVER	1	
16	RLBT4001-N	FERRITE CORE	1	J0KD00000028
17	RMC0486	ANGLE	1	
301	RHD17036	SCREW	2	<SPC>
302	RMM0234-1	TRV DRIVE RACK	1	<SPC>
303	RAF3022A-1	OPTICAL PICK-UP / ASS'Y	1	⚠<SPC>
304	RJB2309A	FFC	1	<SPC>
305	RHD14095	SCREW	1	<SPC>
306	RJB2308A	FFC	1	<SPC>
307	RXQ0745A	TRV CHASSIS W/SP / MOTOR	1	<SPC>
308	VHD1224	SCREW	4	<SPC>
309	RMS0712	FIXED PIN	3	
310	RMG0545-A1	FLOATING RUBBER	4	<SPC>
311	RMC0415	ADJUST SPRING / HOLDER(A)	3	<SPC>
313	RME0320	ADJUST SPRING	3	<SPC>
314	RDG0501	TRV GEAR(C)	1	<SPC>
315	RME0319	TRV GEAR SPRING	1	<SPC>
316	RDG0500	TRV GEAR(B)	1	<SPC>
317	RDG0499	TRV GEAR(A)	1	<SPC>
318	RMS0710	GEAR	1	<SPC>
319	RMG0558-K	PCB RUBBER	1	<SPC>
320	RHD20060	SCREW	1	<SPC>
321	RMS0711	GUIDE SHAFT	1	<SPC>
322	RMG0561-T	CUSHION RUBBER	1	<SPC>
401	RMR1318-X	SPRING HOOK	1	<SPC>
402	RMR1317-K1	CLAMP PLATE	1	<SPC>
403	RXQ0729	MAGNET HOLDER / UNIT	1	<SPC>
404	RXQ0724	CLAMPER UNIT	1	<SPC>
405	RME0318-1	CLAMPER SPRING	1	<SPC>
406	RMR1321-X	SPRING HOLDER	1	<SPC>
407	RGQ0280-K4	TRAY	1	
408	RMR1323-K1	MIDDLE CHASSIS	1	
409	XTW3+12S	SCREW	1	
410	XTV3+10J	SCREW	4	<SPC>
411	RXQ0727	MECHANISM CHASSIS / UNIT	1	
C1	ECA1HAK010XI	50V 1U	1	
C2	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C3	ECJ1VB1H102K	50V 1000P	1	

[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4	ECA1CAK100XB	16V 10U	1	
C5	ECA1CAM332XE	16V 3300U	1	
C6	ECA1CAM471XB	16V 470U	1	
C7	EEUFC0J821B	6.3V 820U	1	
C8	ECA1CAK100XB	16V 10U	1	
C9	ECA1CAK101XB	16V 100U	1	
C10	ECA1CAK100XB	16V 10U	1	
C11,12	ECA0JAM471XB	6.3V 470U	2	
C13	ECA0JAK221XH	6.3V 220U	1	
C14	ECUVNC474KBN	16V 0.47U	1	F1J1C474A091
C15	ECJ1VB1C104K	16V 0.1U	1	
C16	ECJ1VB1H102K	50V 1000P	1	
C17	ECA1CAK470XB	16V 47U	1	
C18	ECA1CAK100XB	16V 10U	1	
C19	ECJ1VB1H102K	50V 1000P	1	
C20	ECA1CAK100XB	16V 10U	1	
C21	ECA0JM222	6.3V 2200U	1	
C22	ECA1CAM471XB	16V 470U	1	
C23	EEUFC0J821B	6.3V 820U	1	
C24	ECUVNJ105KBV	6.3V 1U	1	F1H0J105A002
C402	ECUV1H101JCV	50V 100P	1	F1H1H101A004
C404	ECJ1VB1C104K	16V 0.1U	1	
C405	EEAFC0J101B	6.3V 100U	1	
C406	ECJ1VB1C104K	16V 0.1U	1	
C407	ECUV1H471JCV	50V 470P	1	
C408	ECJ1VB1H102K	50V 1000P	1	
C409	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C410	ECA1HAK3R3XB	50V 3.3	1	
C411	ECA0JAK470XH	6.3V 47U	1	
C412	ECJ1VB1C104K	16V 0.1U	1	
C413	ECA1HAK010XI	50V 1U	1	
C501	ECA0JAK221XH	6.3V 220U	1	
C502	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C504	ECA0JAM102XB	6.3V 1000U	1	
C505	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C506	ECA0JAK101XB	6.3V 100U	1	
C507	ECEA0JKN330	6.3V 33U	1	
C508	ECUV1H101JCV	50V 100P	1	F1H1H101A004
C509	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C510	ECA0JAM102XB	6.3V 1000U	1	
C512	ECA0JAK101XB	6.3V 100U	1	
C515	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C523,24	ECUVNH103KBV	50V 0.01U	2	F1H1H103A748
C526	ECJ1VB1C104K	16V 0.1U	1	
C601-04	ECUV1H101JCV	50V 100P	4	F1H1H101A004
C605	ECUVNH103KBV	50V 0.01U	1	F1H1H103A748
C801	ECA0JAK470XH	6.3V 47U	1	
C802	ECA1CAK101XB	16V 100U	1	
C803,04	ECA1CAK100XB	16V 10U	2	
C805,06	ECUV1H471JCV	50V 470P	2	
C807,08	ECUV1H470JCV	50V 47P	2	F1H1H470A736
C809	ECA0JAK470XH	6.3V 47U	1	
C810	ECJ1VB1C104K	16V 0.1U	1	
C811-14	ECA0JAK470XH	6.3V 47U	4	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C815,16	ECA1CAK100XB	16V 10U	2	
C817,18	ECUV1H471JCV	50V 470P	2	
C819,20	ECUV1H470JCV	50V 47P	2	F1H1H470A736
C821	ECA0JAK470XH	6.3V 47U	1	
C822	ECJ1VB1C104K	16V 0.1U	1	
C823,24	ECA1CAK220XB	16V 22U	2	
C825,26	ECA1CAK100XB	16V 10U	2	
C827-30	ECJ1VB1H222K	50V 2200P	4	
C831,32	ECA1CAK100XB	16V 10U	2	
C833,34	ECUV1H471JCV	50V 470P	2	
C835,36	ECUV1H470JCV	50V 47P	2	F1H1H470A736
C837	ECA0JAK470XH	6.3V 47U	1	
C838	ECJ1VB1C104K	16V 0.1U	1	
C839,40	ECA1CAK220XB	16V 22U	2	
C841,42	ECA1CAK100XB	16V 10U	2	
C843,44	ECJ1VB1H222K	50V 2200P	2	
C845,46	ECA1CAK100XB	16V 10U	2	
C847,48	ECUV1H471JCV	50V 470P	2	
C849,50	ECUV1H470JCV	50V 47P	2	F1H1H470A736
C851	ECA0JAK470XH	6.3V 47U	1	
C852	ECJ1VB1C104K	16V 0.1U	1	
C853-56	ECA0JAK470XH	6.3V 47U	4	
C857,58	ECJ1VB1H222K	50V 2200P	2	
C2001,02	ECEV0GA101SR	4V 100U	2	
C2003-18	ECUZNC104ZFV	16V 0.1U	16	F1H1C1040008
C2021	ECEV0GA101SR	4V 100U	1	
C2022-25	ECUZNC104ZFV	16V 0.1U	4	F1H1C1040008
C2026	ECJ1VB1C104K	16V 0.1U	1	
C2027	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C2031,32	ECJ1VB1C104K	16V 0.1U	2	
C2034	ECJ1VB1C393K	16V 0.039U	1	
C2035	ECJ1VB1H822K	50V 8200P	1	
C2036	ECJ1VB1C104K	16V 0.1U	1	
C2038	ECJ1VB1C104K	16V 0.1U	1	
C2039	F1H1C103A071	16V 0.01U	1	
C2040	ECUVNH102JCV	50V 1000P	1	F1H1H102A737
C2041,42	ECUV1H331JCV	50V 330P	2	F1H1H331A004
C2043	ECUV1H101JCV	50V 100P	1	F1H1H101A004
C2044,45	ECUV1H391JCV	50V 390P	2	F1H1H391A004
C2046	ECUVNH102JCV	50V 1000P	1	F1H1H102A737
C2047	F1H1C103A071	16V 0.01U	1	
C2048	ECUVNE153KBV	25V 0.015	1	F1H1E153A050
C2050	ECUVNC333KBV	16V 0.033U	1	F1H1C333A071
C2051	ECUV1H680JCV	50V 68P	1	
C2052,53	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C2054	ECUV1H681JCV	50V 680P	1	ECJ1VC1H681J
C2055	ECJ1VB1H682K	50V 6800P	1	
C2056,57	ECJ1VB1C104K	16V 0.1U	2	
C2058	ECUVNH102JCV	50V 1000P	1	F1H1H102A737
C2059	ECUV1H821JCV	50V 820P	1	
C2060	ECUVNH102JCV	50V 1000P	1	F1H1H102A737
C2061,62	ECUV1H331JCV	50V 330P	2	F1H1H331A004
C2063-65	ECUVNH102JCV	50V 1000P	3	F1H1H102A737
C2066-68	ECJ1VB1H472K	50V 4700P	3	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C2501	EEVHB0J101P	6.3V 100U	1	
C2502	ECEV0JA331P	6.3V 330U	1	
C2503	ECEV1CA101WP	16V 100U	1	
C2504-08	ECUZNC104ZFV	16V 0.1U	5	F1H1C1040008
C2511,12	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C2601,02	ECJ1VF1C104Z	16V 0.1U	2	<SPC>
C3001,02	ECEV0JA331P	6.3V 330U	2	
C3003-07	ECUZNC104ZFV	16V 0.1U	5	F1H1C1040008
C3008,09	ECUVNA105ZFV	10V 1U	2	F1H1A105A030
C3010-36	ECUZNC104ZFV	16V 0.1U	27	F1H1C1040008
C3041-45	ECUZNC104ZFV	16V 0.1U	5	F1H1C1040008
C3051,52	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C3054	ECUV1H220JCV	50V 22P	1	ECJ1VC1H220J
C3061-67	ECUZNC104ZFV	16V 0.1U	7	F1H1C1040008
C3071,72	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C3073	F3F1A1060002	10V 10U	1	
C3080	ECEV0JA331P	6.3V 330U	1	
C3081,82	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C3083-86	ECUVNJ105KBV	6.3V 1U	4	F1H0J105A002
C3087-89	ECUZNC104ZFV	16V 0.1U	3	F1H1C1040008
C3100	EEVHB0J101P	6.3V 100U	1	
C3101	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C3106	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C3111	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C3116	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C3210-14	ECUZNC104ZFV	16V 0.1U	5	F1H1C1040008
C4201	F2G0J102A015	6.3V 1000P	1	
C4208	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C4211	F3F1A1060002	10V 10U	1	
C4215	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C4216	F2G0J101A015	6.3V 100P	1	
C4217	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C4219,20	F3F1A1060002	10V 10U	2	
C4221-27	ECUZNC104ZFV	16V 0.1U	7	F1H1C1040008
C5001,02	ECJ1VF1C104Z	16V 0.1U	2	<SPC>
C5201,02	EEVHB1C100R	16V 10U	2	
C5203-06	ECUZNC104ZFV	16V 0.1U	4	F1H1C1040008
C5211	EEVHB0J470R	6.3V 47U	1	
C5215	EEVHB0J470R	6.3V 47U	1	
C5221	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C5222	F3F1A1060002	10V 10U	1	
C5232-34	ECUZNC104ZFV	16V 0.1U	3	F1H1C1040008
C5235,36	ECJ1VB1C104K	16V 0.1U	2	
C5241-48	ECUZNC104ZFV	16V 0.1U	8	F1H1C1040008
C5251	ECUV1H101JCV	50V 100P	1	F1H1H101A004
C5252	ECJ1VB1C104K	16V 0.1U	1	
C5261	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C5262	ECUV1H821JCV	50V 820P	1	
C5263	ECUV1H221JCV	50V 220U	1	ECJ1VC1H221J
C5264	ECUV1H821JCV	50V 820P	1	
C5271,72	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C5273	ECJ1VB1H182K	50V 1800P	1	
C5274	ECJ1VB1C104K	16V 0.1U	1	
C5282	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C5283,84	ECUV1H561JCV	50V 560P	2	F1H1H561A004
C5285	ECUV1C273KBV	16V 0.027U	1	F1H1C2730001
C5288	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C5289-92	ECJ1VB1C104K	16V 0.1U	4	
C5295	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C5298	ECUVNC473KBV	16V 0.047U	1	F1H1C473A071
C6201	ECEV0GA330SR	4V 33U	1	
C6202-06	ECUZNC104ZFV	16V 0.1U	5	F1H1C1040008
C6211	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C6212	ECUV1H101JCV	50V 100P	1	F1H1H101A004
C6215	ECJ1VB1C104K	16V 0.1U	1	
C6221-23	ECUZNC104ZFV	16V 0.1U	3	F1H1C1040008
C6251	ECUVNA105ZFV	10V 1U	1	F1H1A105A030
C6252	ECUV1H471JCV	50V 470P	1	
C6253	F3F1A1060002	10V 10U	1	
C6257	EEVHB0J101P	6.3V 100U	1	
C6261	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C6262	F3F1A1060002	10V 10U	1	
C6304,05	ECUZNC104ZFV	16V 0.1U	2	F1H1C1040008
C6501,02	ECEV0GA330SR	4V 33U	2	
C6503-05	ECUZNC104ZFV	16V 0.1U	3	F1H1C1040008
C6511,12	ECJ1VC1H150J	50V 15P	2	
C6521	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
C6801,02	ECEV0GA101SR	4V 100U	2	
C6803-14	ECJ1VF1C224Z	16V 0.22U	12	
C6815	ECUZNC104ZFV	16V 0.1U	1	F1H1C1040008
CN1	RJS2A5520-1	CONNECTOR(20P)	1	K1MP20A00005
CN402	K1KA22A00044	CONNECTOR(22P)	1	
CN403	VJP4369E026B	CONNECTOR(26P)	1	K1KA26A00089
CN404	RJP2G18ZA	CONNECTOR(2P)	1	K1KA02A00229
CNA601	RJS1A6604T1	CONNECTOR(4P)	1	K1MP04A00008
CNB601	RJS1A6604T1	CONNECTOR(4P)	1	K1MP04A00008
D1,D2	MA2J11100L	DIODE	2	
D3,D4	MA735TX	DIODE	2	MA2Q73500L
D5	SFPB-72V	DIODE	1	B0JCPC000004
D6	MA2J11100L	DIODE	1	
D10	MA8082M	DIODE	1	MAZ80820M
D11,12	MA2J11100L	DIODE	2	
D13	SFPB-72V	DIODE	1	B0JCPC000004
D401-09	MA2J11100L	DIODE	9	
D601	SELS5923C	LED	1	B3ADA0000083
D603,04	SELS5923C	LED	2	B3ADA0000083
D606	B3AHA0000009	DIODE	1	
D801-08	MA2J11100L	DIODE	8	
D2001	MA2J72800L	DIODE	1	
D3071	MA2J11100L	DIODE	1	
D5261	MA3X71600L	DIODE	1	
D6215	MA2J72800L	DIODE	1	
FL4201	VLF1491S105T	CHIP FILTER	1	F1J1A1050021

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
FL6251	VLF1491S105T	CHIP FILTER	1	F1J1A1050021
FL6253, / 54	VLF1491S105T	CHIP FILTER	2	F1J1A1050021
FL6255	VLF1491S104T	CHIP FILTER	1	F1J1E1040022
FP5001	K1MN30B00098	CONNECTOR	1	<SPC>
FP5002	K1MN38B00005	CONNECTOR	1	<SPC>
FP5003	K1MN04B00036	CONNECTOR	1	<SPC>
FP5201	K1MN38A00005	CONNECTOR	1	
IC1	PQ1CZ31H2ZP	IC	1	
IC2	C0DBZHE00011	IC	1	
IC3	C0DBCFG00003	IC	1	
IC4	C0DBZHE00011	IC	1	
IC5	NJM78M05FA	IC	1	C0CAADE00007
IC6	C0CAAHF00001	IC	1	
IC7	PQ1CZ31H2ZP	IC	1	
IC402	C2BBFD000350	IC	1	
IC501	C9ZB00000394	IC	1	
IC601	BU2050F-E2	IC	1	C1BB00000573
IC801	BA4558FHTT1	IC	1	C0ABBB000210
IC802-05	NJM4580EDTE1	IC	4	C0ABBB000125
IC2001	MN103S26EGA	IC	1	
IC2501	C0GBG0000020	IC	1	
IC3001	MN677531KA	IC	1	
IC3061	C3ABPG000063	IC	1	
IC3071	C0CBCBD00002	IC	1	
IC4211	C0FBBK000022	IC	1	
IC5201	AN8703FH	IC	1	
IC5261	C0ABHB000004	IC	1	
IC5262	C0ABBA000121	IC	1	
IC5264	C0JBAR000155	IC	1	
IC6201	MN102H60GFB	IC	1	
IC6211	PST596JNR	IC	1	C0EBE0000070
IC6221	C3EBFC000025	IC	1	
IC6222, / 23	C0JBAA000001	IC	2	
IC6251	C0CBCBE00001	IC	1	
IC6261	C0DBFFG00004	IC	1	
IC6301	RFKFMA502160	IC	1	<SPC>
IC6501	C1DB00000582	IC	1	
IC6521	C0JBAB000356	IC	1	
IC6801	MN5B00	IC	1	
JK503	K1U208B00003	JK,VIDEO/S-VIDEO / OUTPUT	1	
K3002,03	ERJ3GEY0R00Z	CHIP JUMPER	2	
K3201,02	ERJ3GEY0R00Z	CHIP JUMPER	2	
K6251	ERJ14Y0R00	CHIP JUMPER	1	
K6813	ERJ3GEY0R00Z	CHIP JUMPER	1	
L1	G0A200D00002	COIL	1	
L2	G0ZZ00001930	COIL	1	
L3-L5	G0A200D00002	COIL	3	
L6	G0ZZ00001930	COIL	1	
L502	ELJFCR68KF	COIL	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L506,07	G0BYYYY00016	COIL	2	
L2001,02	G1C100KA0019	COIL	2	
L2021	G1C100KA0019	COIL	1	
L2501	ERJ14Y0R00	CHIP JUMPER	1	
L3071	G1C100KA0008	COIL	1	
L4211	G1C220K00011	COIL	1	
L5201,02	ELJEA100KF	COIL	2	
L6501	G1C220JA0010	COIL	1	
L6502	ELJFC220KF	COIL	1	
LB3001, / 02	J0JHC0000045	COIL	2	
LB3201	VLP0155-T	COIL	1	J0JCC0000119
LB3202-04	ERJ3GEYJ101V	CHIP JUMPER	3	
LB3206-08	VLP0155-T	COIL	3	J0JCC0000119
LB4200-17	VLP0323A601R	COIL	18	J0JCC0000062
LB5001, / 02	VLP0323A601R	COIL	2	J0JCC0000062 <SPC>
LB5201, / 02	VLP0323A601R	COIL	2	J0JCC0000062
LB5203-07	J0JHC0000045	COIL	5	
LB5208-10	VLP0323A601R	COIL	3	J0JCC0000062
LB5211	VLP0155-T	COIL	1	J0JCC0000119
LB5212-14	VLP0323A601R	COIL	3	J0JCC0000062
LB5215	J0JHC0000045	COIL	1	
LB5216-19	VLP0155-T	COIL	4	J0JCC0000119
LB5220, / 21	VLP0323A601R	COIL	2	J0JCC0000062
LB5222, / 23	VLP0155-T	COIL	2	J0JCC0000119
LB5224, / 25	VLP0323A601R	COIL	2	J0JCC0000062
LB5226-29	VLP0174	COIL	4	J0JDC0000002
LB5230, / 31	VLP0155-T	COIL	2	J0JCC0000119
LB6201	VLP0323A601R	COIL	1	J0JCC0000062
LB6202	VLP0155-T	COIL	1	J0JCC0000119
LB6221	VLP0323A601R	COIL	1	J0JCC0000062
LB6501, / 02	VLP0323A601R	COIL	2	J0JCC0000062
LB6512-14	VLP0155-T	COIL	3	J0JCC0000119
LB6515	J0JCC0000077	COIL	1	
LB6521	VLP0323A601R	COIL	1	J0JCC0000062
LB6522	VLP0155-T	COIL	1	J0JCC0000119
LB6801, / 02	J0JHC0000045	COIL	2	
PCB1	REP3379G-N	PCB ASS'Y	1	[RTL]
PCB2	REP3324DA-S	PCB ASS'Y	1	[RTL]
PCB3	REP3324AB-S	PCB ASS'Y	1	[RTL]
PCB301	REP3082A-1N	PCB ASS'Y	1	[RTL]<SPC>
PS3201	K1KB22A00025	CONNECTOR	1	
PS4201	K1KB26A00027	CONNECTOR	1	
PS6201	VJS4047C010	CONNECTOR	1	K1MN10A00030
Q1	2SD874QRSTX	TRANSISTOR	1	2SD08740WL
Q2	FMW1T98	TRANSISTOR	1	
Q3	2SB766ATX	TRANSISTOR	1	2SB0766A0L
Q401-03	2SD1819A0L	TRANSISTOR	3	
Q404	UN5214TX	TRANSISTOR	1	UNR521400L
Q405	DTC114EUA106	TRANSISTOR	1	B1GBCFJJ0007
Q406	UN5111TX	TRANSISTOR	1	UNR511100L

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q407	DTC114EUA106	TRANSISTOR	1	B1GBCFJJ0007
Q505	DTC114EUA106	TRANSISTOR	1	B1GBCFJJ0007
Q801-04	B1GFGCAA0001	TRANSISTOR	4	
Q2001	2SD1819A0L	TRANSISTOR	1	
Q3101	2SB1218ARL	TRANSISTOR	1	
Q3106	2SB1218ARL	TRANSISTOR	1	
Q3111	2SB1218ARL	TRANSISTOR	1	
Q3116	2SB1218ARL	TRANSISTOR	1	
Q5211	2SB1115-T	TRANSISTOR	1	B1BDBF000004
Q5215	2SB1115-T	TRANSISTOR	1	B1BDBF000004
Q5261,62	2SC39300XL	TRANSISTOR	2	
Q5263	2SA15320XL	TRANSISTOR	1	
Q5264	2SC39300XL	TRANSISTOR	1	
Q5271	UNR521100L	TRANSISTOR	1	
QR5221	UN2121-TX	TRANSISTOR	1	UNR212100L
QR5241	UN511MTX	TRANSISTOR	1	UNR511M00L
QR6215	UN5212TX	TRANSISTOR	1	UNR521200L
R1,R2	ERJ3GEYJ101V	1/16W 100	2	
R3	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R4	ERJ3GEYJ222V	1/16W 2.2K	1	
R5	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R6	ERJ3GEYJ102V	1/16W 1K	1	
R7	ERJ3GEYJ101V	1/16W 100	1	
R8	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R9	ERJ3GEYJ122V	1/16W 1.2K	1	
R11	ERJ3GEYJ101V	1/16W 100	1	
R12	ERJ3GEYJ471V	1/16W 470	1	
R13	ERJ3GEYJ332V	1/16W 3.3K	1	D0GB332JA002
R14	ERJ3GEYJ222V	1/16W 2.2K	1	
R15	ERJ3GEYJ333V	1/16W 33K	1	D0GB333JA002
R16	ERJ3GEYJ104V	1/16W 100K	1	D0GB104JA002
R17	ERD2FCG100	1/4W 10	1	
R402	ERJ3GEYJ102V	1/16W 1K	1	
R403	ERJ3GEYJ221V	1/16W 220	1	
R405	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R406	ERJ3GEYJ102V	1/16W 1K	1	
R407	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R411	ERJ3GEYJ472V	1/16W 4.7K	1	
R413	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R415	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R416-18	ERJ3GEYJ472V	1/16W 4.7K	3	
R419,20	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R421	ERJ3GEYJ182V	1/16W 1.8K	1	
R422	ERJ3GEYJ332V	1/16W 3.3K	1	D0GB332JA002
R423-25	ERJ3GEYJ103V	1/16W 10K	3	D0GB103JA002
R426,27	ERJ3GEYJ472V	1/16W 4.7K	2	
R428	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R429	ERJ3GEYJ821V	1/16W 820	1	
R430	ERJ3GEYJ472V	1/16W 4.7K	1	
R431	ERJ3GEYJ471V	1/16W 470	1	
R432	ERJ3GEYJ221V	1/16W 220	1	
R433	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002

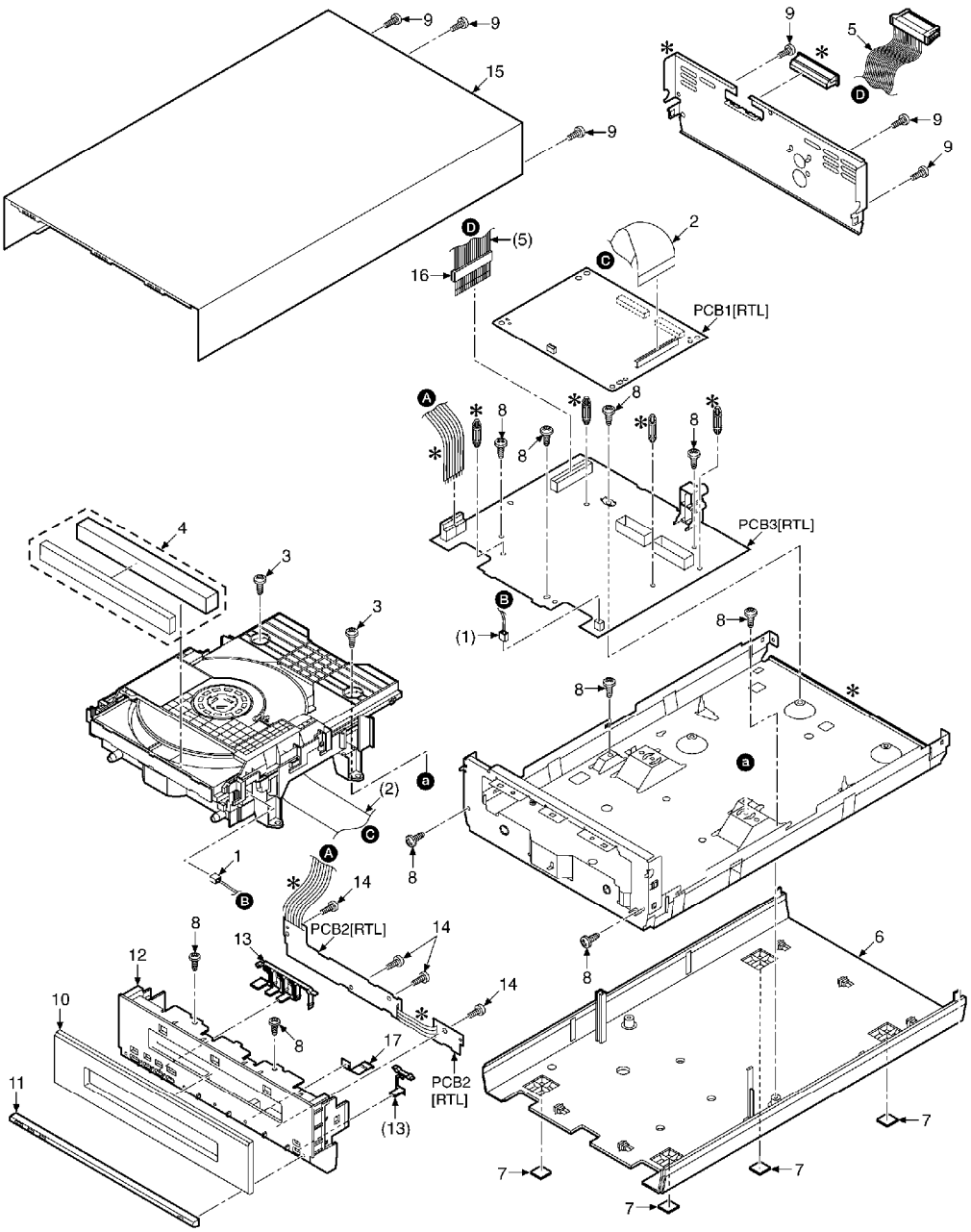
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R434,35	ERJ3GEYJ221V	1/16W 220	2	
R436	ERJ3GEYJ823V	1/16W 82K	1	D0GB823JA002
R437	ERJ3GEYJ513V	1/16W 51K	1	
R438	ERJ3GEYJ472V	1/16W 4.7K	1	
R439	ERJ3GEYJ221V	1/16W 220	1	
R440	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R441-43	ERJ3GEYJ101V	1/16W 100	3	
R444	ERJ3GEYJ104V	1/16W 100K	1	D0GB104JA002
R445	ERJ3GEYJ101V	1/16W 100	1	
R446	ERJ3GEYJ681V	1/16W 680	1	D0GB681JA002
R447,48	ERJ3GEYJ102V	1/16W 1K	2	
R449	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R450	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R451	ERJ3GEYJ222V	1/16W 2.2K	1	
R452,53	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R456,57	ERJ3GEYJ101V	1/16W 100	2	
R501,02	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002
R510-12	ERJ3EKF75R0V	1/16W 75	3	
R513-16	ERJ3GEYJ1R0V	1/16W 1	4	
R521	ERJ3GEYJ103V	1/16W 10K	1	D0GB103JA002
R523	ERJ3GEYJ222V	1/16W 2.2K	1	
R524	ERJ3GEYJ822V	1/16W 8.2K	1	D0GB822JA002
R601	ERJ3GEYJ102V	1/16W 1K	1	
R602	ERJ3GEYJ122V	1/16W 1.2K	1	
R603	ERJ3GEYJ152V	1/16W 1.5K	1	
R604	ERJ3GEYJ182V	1/16W 1.8K	1	
R607-10	ERJ3GEYJ101V	1/16W 100	4	
R611	MCR03PZHJ561	1/16W 560	1	
R613,14	MCR03PZHJ561	1/16W 560	2	
R615	ERJ3GEYJ331V	1/16W 330	1	D0GB331JA002
R616	ERJ3GEYJ151V	1/16W 150	1	
R801	ERJ3GEYJ102V	1/16W 1K	1	
R802	ERJ3GEYJ562V	1/16W 5.6K	1	D0GB562JA002
R803,04	ERJ3GEYJ102V	1/16W 1K	2	
R805,06	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002
R807-10	ERJ3GEYJ103V	1/16W 10K	4	D0GB103JA002
R811,12	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R813,14	ERJ3GEYJ153V	1/16W 15K	2	
R815,16	ERJ3GEYJ102V	1/16W 1K	2	
R817,18	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R819,20	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R821,22	ERJ3GEYJ101V	1/16W 100	2	
R823,24	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002
R825,26	ERJ3GEYJ153V	1/16W 15K	2	
R827,28	ERJ3GEYJ103V	1/16W 10K	2	D0GB103JA002
R829,30	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R831,32	ERJ3GEYJ153V	1/16W 15K	2	
R833,34	ERJ3GEYJ102V	1/16W 1K	2	
R835,36	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R837,38	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R839-42	ERJ3GEYJ104V	1/16W 100K	4	D0GB104JA002
R843	ERJ3GEYJ102V	1/16W 1K	1	
R844	ERJ3GEYJ182V	1/16W 1.8K	1	
R845,46	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R847-50	ERJ3GEYJ103V	1/16W 10K	4	D0GB103JA002
R851,52	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R853	ERJ3GEYJ153V	1/16W 15K	1	
R854	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R855,56	ERJ3GEYJ102V	1/16W 1K	2	
R857,58	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R859,60	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R861,62	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002
R863,64	ERJ3GEYJ102V	1/16W 1K	2	
R865,66	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002
R867-70	ERJ3GEYJ103V	1/16W 10K	4	D0GB103JA002
R871,72	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R873,74	ERJ3GEYJ153V	1/16W 15K	2	
R875,76	ERJ3GEYJ102V	1/16W 1K	2	
R877,78	ERJ3GEYJ332V	1/16W 3.3K	2	D0GB332JA002
R879,80	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R881,82	ERJ3GEYJ104V	1/16W 100K	2	D0GB104JA002
R2020	ERJ3GEYJ183V	1/16W 18K	1	D0GB183JA002
R2021	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R2022,23	ERJ3GEYJ752V	1/16W 7.5K	2	
R2025,26	ERJ3GEYJ223V	1/16W 22K	2	D0GB223JA002
R2027,28	ERJ3GEYJ563V	1/16W 56K	2	
R2029,30	ERJ3GEYJ102V	1/16W 1K	2	
R2031	MCR03PZHJ561	1/16W 560	1	
R2032	ERJ3GEYJ103Z	1/16W 10K	1	
R2033	ERJ3GEYJ472V	1/16W 4.7K	1	
R2034	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R2035	ERJ3GEYJ272V	1/16W 2.7K	1	
R2036	ERJ3GEY0R00Z	CHIP JUMPER	1	
R2037	ERJ3GEYJ683V	1/16W 68K	1	D0GB683JA002
R2038	ERJ3GEYJ153V	1/16W 15K	1	
R2039	ERJ3GEYJ105V	1/16W 1M	1	
R2040,41	ERJ3GEYJ822V	1/16W 8.2K	2	D0GB822JA002
R2042-47	ERJ3GEYJ153V	1/16W 15K	6	
R2048	ERJ3GEYJ475V	1/16W 4.7M	1	
R2049	ERJ3GEYJ102V	1/16W 1K	1	
R2053,54	ERJ3GEYJ473V	1/16W 47K	2	D0GB473JA002
R2504,05	ERJ3GEYJ101V	1/16W 100	2	
R3001	ERJ3GEYJ220V	1/16W 22	1	
R3002	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R3006,07	ERJ3GEY0R00Z	CHIP JUMPER	2	
R3031	ERJ3GEYJ101V	1/16W 100	1	
R3061	ERJ3GEYJ101V	1/16W 100	1	
R3080	ERJ3RBD752V	1/16W 7.5K	1	
R3082	ERJ3RBD202V	1/16W 2K	1	
R3083	ERJ3RBD132V	1/16W 1.3K	1	
R3084	ERJ3RBD752V	1/16W 7.5K	1	
R3085	ERJ3RBD183V	1/16W 18K	1	
R3086	ERJ3RBD432V	1/16W 4.3K	1	
R3087,88	ERJ3RBD752V	1/16W 7.5K	2	
R3089	ERJ3RBD682	1/16W 6.8K	1	ERJ3RBD682V
R3090	ERJ3RBD272V	1/16W 2.7K	1	
R3101	ERJ3RED750V	1/16W 75	1	
R3102	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3103	ERJ3GEYJ102V	1/16W 1K	1	
R3106	ERJ3RED750V	1/16W 75	1	
R3107	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002
R3108	ERJ3GEYJ102V	1/16W 1K	1	
R3111	ERJ3RED750V	1/16W 75	1	
R3112	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002
R3113	ERJ3GEYJ102V	1/16W 1K	1	
R3116	ERJ3RED750V	1/16W 75	1	
R3117	ERJ3GEYJ330V	1/16W 33	1	D0GB330JA002
R3118	ERJ3GEYJ102V	1/16W 1K	1	
R3263	ERJ3GEY0R00Z	CHIP JUMPER	1	
R3266,67	ERJ3GEY0R00Z	CHIP JUMPER	2	
R4201	ERJ3GEY0R00Z	CHIP JUMPER	1	
R4204	ERJ3GEYJ102V	1/16W 1K	1	
R4211	ERJ3GEYJ101V	1/16W 100	1	
R5001,02	ERJ3GEYJ560V	1/16W 56	2	<SPC>
R5211	ERJ3GEYJ2R2V	1/16W 2.2	1	D0GB2R2JA002
R5212	ERJ12YJ270H	1/2W 27	1	
R5213	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R5214	ERJ3GEYJ223V	1/16W 22K	1	D0GB223JA002
R5215	ERJ3GEYJ2R2V	1/16W 2.2	1	D0GB2R2JA002
R5216	ERJ12YJ270H	1/2W 27	1	
R5217	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R5221	ERJ3GEY0R00Z	CHIP JUMPER	1	
R5222	ERJ3GEYJ472V	1/16W 4.7K	1	
R5231,32	ERJ3GEYJ822V	1/16W 8.2K	2	D0GB822JA002
R5233	ERJ3GEYJ102V	1/16W 1K	1	
R5241	ERJ3GEYJ221V	1/16W 220	1	
R5242	ERJ3GEYJ823V	1/16W 82K	1	D0GB823JA002
R5256	ERJ3GEYF223	1/16W 22K	1	
R5257	ERJ3GEYJ182V	1/16W 1.8K	1	
R5258	ERJ3GEYJ222V	1/16W 2.2K	1	
R5261,62	MCR03PZHJ561	1/16W 560	2	
R5263	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R5264	ERJ3GEYJ103Z	1/16W 10K	1	
R5265	ERJ3GEYJ104V	1/16W 100K	1	D0GB104JA002
R5266	ERJ3GEYJ563V	1/16W 56K	1	
R5267	ERJ3GEYJ334V	1/16W 330K	1	
R5268	ERJ3GEYJ102V	1/16W 1K	1	
R5269	ERJ3GEYJ104V	1/16W 100K	1	D0GB104JA002
R5270	ERJ3GEYJ273V	1/16W 27K	1	D0GB273JA002
R5271,72	ERJ3GEY0R00Z	CHIP JUMPER	2	
R5281,82	ERJ3GEYJ105V	1/16W 1M	2	
R5286,87	ERJ3GEYJ680V	1/16W 68	2	D0GB680JA002
R5288	ERJ3GEYJ562V	1/16W 5.6K	1	D0GB562JA002
R5289	ERJ3GEYJ472V	1/16W 4.7K	1	
R5290	ERJ3GEYJ562V	1/16W 5.6K	1	D0GB562JA002
R5291	ERJ3GEYJ472V	1/16W 4.7K	1	
R5292	ERJ3GEYJ562V	1/16W 5.6K	1	D0GB562JA002
R5293	ERJ3GEYJ472V	1/16W 4.7K	1	
R5294	ERJ3GEYJ562V	1/16W 5.6K	1	D0GB562JA002
R5295	ERJ3GEYJ472V	1/16W 4.7K	1	
R5297	ERJ3GEYJ101V	1/16W 100	1	
R5304,05	ERJ3GEY0R00Z	CHIP JUMPER	2	

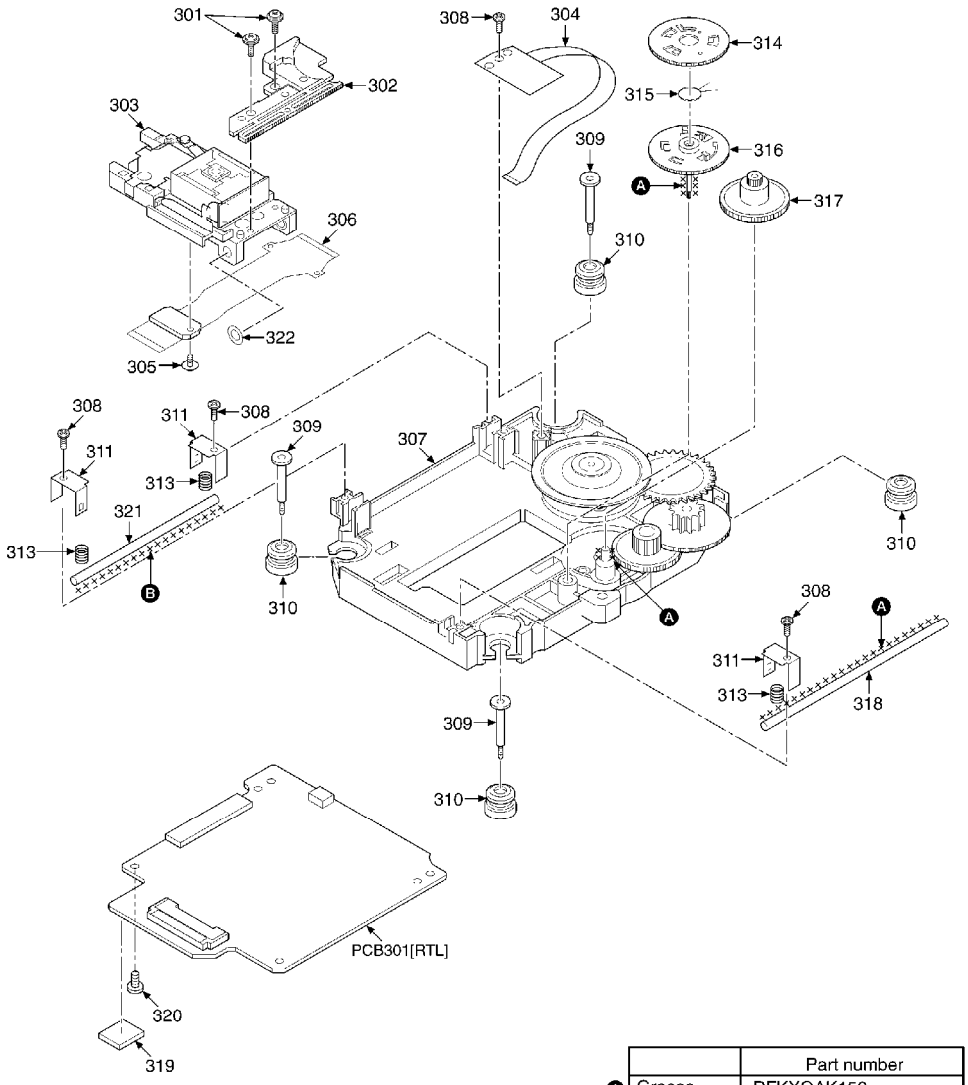
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R6201	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R6202-05	ERJ3GEYJ103Z	1/16W 10K	4	
R6206	ERJ3GEYJ102V	1/16W 1K	1	
R6207	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
R6211	ERJ3GEYJ472V	1/16W 4.7K	1	
R6215	ERJ3GEYJ103Z	1/16W 10K	1	
R6216	ERJ3GEYJ102V	1/16W 1K	1	
R6512	ERJ3RBD331V	1/16W 330	1	
R6513	ERJ3GEYJ103Z	1/16W 10K	1	
R6514	ERJ3GEYJ470V	1/16W 47	1	
R6515	ERJ3GEYJ100V	1/16W 10	1	
R6801	ERJ3GEYJ473V	1/16W 47K	1	D0GB473JA002
RA2021	EXBV4V102JV	1/32W 1K	1	
RA2022	EXBV4V472JV	1/32W 470	1	
RA2501	EXBV8V473JV	1/16W 47K	1	
RA3001	EXBV4V102JV	1/32W 1K	1	
RA3002-08	EXBV8V820JV	1/16W 82	7	
RA3009, / 10	EXBV8V331JV	1/16W 330	2	
RA3031-33	EXBV4VR000V	1/32W 0	3	
RA5001	EXBV4V560J	1/32W 56	1	<SPC>
RA5002, / 03	EXBV8V560JV	1/16W 56	2	<SPC>
RA5201	EXBV8V101JV	1/16W 100	1	
RA6201, / 02	EXBV4V103JV	1/32W 10K	2	
RA6203	EXBV4V472JV	1/32W 470	1	
RA6204	EXBV4V103JV	1/32W 10K	1	
RA6205	EXBV8V103J	1/16W 10K	1	D0GZ103J0001
RA6206	EXBV4V473JV	1/32W 47K	1	
RA6207	EXBV4V472JV	1/32W 470	1	
RJ701-12	ERJ3GEY0R00V	CHIP JUMPER	12	
RJ801-07	ERJ6GEY0R00V	CHIP JUMPER	7	
RJ901-03	ERJ8GEY0R00V	CHIP JUMPER	3	D0YFR0000002
S601-03	EVQPJG05Q	SW,OPERATION	3	
S605	EVQPJG05Q	SW,OPEN/CLOSE	1	
S1001	RSH1A049-U	SW,TRAY OPEN/CLOSE / DET.	1	K0F111E00093
SW2601	RSH1A048-A	SW,TRV	1	<SPC>
SJ502	ERJ3GEY0R00V	CHIP JUMPER	1	
W3001	ERJ3GEY0R00Z	CHIP JUMPER	1	
X401	RSXY8M00D01T	OSCILLATOR	1	H2B800400005
X6501	H0J368500003	OSCILLATOR	1	
Z507	J0JBC0000015	COMPONENTS / COMBINATION	1	
Z508	J0JBC0000015	COMPONENTS / COMBINATION	1	
Z509	J0JBC0000015	COMPONENTS / COMBINATION	1	

20. Cabinet Parts Location



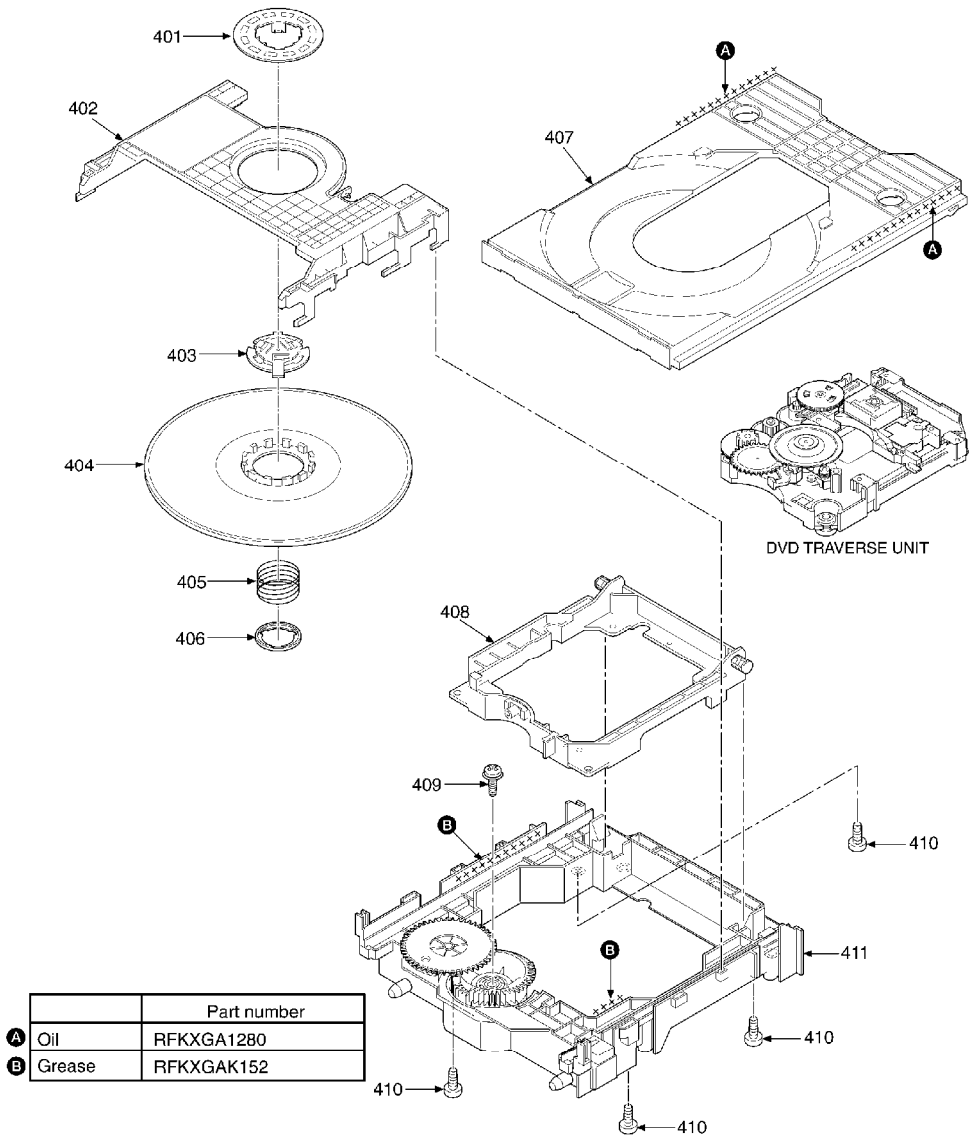
Note : · We do not supply those items of parts marked ✻.
· This "PCB2" is a combination PCB.

21. Traverse Unit Parts Location



	Part number
A Grease	RFKXGAK152
B Oil	JZS0648

22. Loading Unit Parts Location



	Part number
A Oil	RFKXGA1280
B Grease	RFKXGAK152

23. Schematic Diagram for printing with letter size

F020300000YM/KH

SCHEMATIC DIAGRAM-3

B DVD MODULE(SODC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/ AUDIO SIGNAL LINE

IC2001
MN103S26EGA
OPTICAL DISC CONTROL

IC2501
C0GBG0000020
STEPPING MOTOR
FOCUS/TRACKING
COIL DRIVE

Q2001
2SD1819ATX
RF AMP

D2001 MA728TX

RA2021 (1K X 2)
RA2022 (4.7K X 2)
RA2501 (47K X 4)

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-B
To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/ 1-G
To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/1-F
To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/ 12-E
To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/12-E
To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/1-F
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/12-D
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-C
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-D
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-C
To B DVD MODULE (AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/12-C
To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-A
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-C
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/12-D
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-C
To B DVD MODULE (AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/12-D
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-F
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-D
To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1,2-E

SL-DT300(EG) DVD MODULE(SODC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–4

B DVD MODULE(AVDEC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/ AUDIO SIGNAL LINE :VIDEO SIGNAL LINE :AUDIO SIGNAL LINE

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-B — DB4 D+1.8V — LB3002 J0JHC0000045 — 1.8V

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-H / SCHEMATIC DIAGRAM-5/12-B — DB1 D+3.3V, DG1 D.GND — LB3001 J0JHC0000045 — 1.8V, 3.3V

To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/1-H — CD1 AV1IRQ, CD2 AV2IRQ

SCHEMATIC DIAGRAM-7/1-F — SC27 WAIT

SCHEMATIC DIAGRAM-7/1-E — CD3 NWEH, SC29 NWEL

SCHEMATIC DIAGRAM-7/1-F — SC28 NRD

SCHEMATIC DIAGRAM-7/1-E — CD4 NAVCS

SCHEMATIC DIAGRAM-7/1-D — CD5 SYSCLK

SCHEMATIC DIAGRAM-7/12-E — SC10 CPUADR1, SC11 CPUADR2, SC12 CPUADR3, SC13 CPUADR4

SCHEMATIC DIAGRAM-7/12-D — SC14 CPUADR5, SC15 CPUADR6, SC16 CPUADR7, SC17 CPUADR8, SC18 CPUADR9, SC19 CPUADR10, SC20 CPUADR11, SC21 CPUADR12, SC22 CPUADR13, SC23 CPUADR14, SC24 CPUADR15, SC25 CPUADR16, SC26 CPUADR17

SCHEMATIC DIAGRAM-7/12-B — SC1 CPUDT0, SC2 CPUDT1, SC3 CPUDT2, SC4 CPUDT3, SC5 CPUDT4, SC6 CPUDT5, SC7 CPUDT6, SC8 CPUDT7

To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/12-A — CD6 CPUDT8, CD7 CPUDT9, CD8 CPUDT10, CD9 CPUDT11, CD10 CPUDT12, CD11 CPUDT13, CD12 CPUDT14, CD13 CPUDT15, SD10 STVALID, SD11 STCLK, SD1 STENABLE

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/12-H — SD9 STD7, SD8 STD6, SD7 STD5, SD6 STD4, SD5 STD3, SD4 STD2, SD3 STD1, SD2 STD0

To B DVD MODULE (WM) CIRCUIT on SCHEMATIC DIAGRAM-8/1,2-G — AD10 DACCK

IC3001 MN677531KA
AV DECODER

RA3002 (82 X 4) — A10, A8, A11, A9
RA3003 (82 X 4) — A7, A0, A6, A1
RA3004 (82 X 4) — A5, A2, A4, A3
RA3001 (1K X 2)
K3002 0 Ω
C3036 0.1
C3003 0.1
C3004 0.1
C3005 0.1
C3006 0.1
C3007 0.1
C3008 1
C3009 1
C3010 0.1
C3011 0.1
C3012 0.1
C3013 0.1
C3014 0.1
C3015 0.1
R3002 47K
K3003 0 Ω
C3016 0.1
C3017 0.1
C3018 0.1

/CS A11, /RAS /CAS, /WE (UDQM), BA1 (LDQM), CLK
RA3008 (82 X 4) — DQ7, DQ8, DQ6, DQ9
RA3007 (82 X 4) — DQ5, DQ10, DQ4, DQ11
RA3006 (82 X 4) — DQ3, DQ12, DQ2, DQ13
RA3005 (82 X 4) — DQ1, DQ14, DQ0, DQ15
R3001 22
C3035 0.1, C3034 0.1, C3033 0.1, C3032 0.1, C3031 0.1, C3030 0.1, C3029 0.1, C3028 0.1, C3027 0.1, C3026 0.1, C3025 0.1 (2.4V)

C3041 0.1, C3042 0.1, C3043 0.1, C3044 0.1, C3045 0.1
W3001 0 Ω
C3023 0.1
C3022 0.1
C3024 0.1
RA3010 (330 X 4)
RA3009 (330 X 4)

REC0/XHSYNC0, REC1/XVSYNC0, REC2, REC3, REC4, REC5, REC6, REC7, VCLK, TESTSEL0, TESTSEL1, AVss, VYOUT, COMPY, IREFY, VREFY, AVDD, VCBOUT, COMPCB, IREFCB, VREFCB, AVss, VCOUT, CPMPC, IREFC, VREFC, AVDD, VCROUT, COMPCR, IREFCR, VREFCR, APLLAVDD, APLLAVSS, DCTEST, MODE121, ACKIO, APLLAVDD, RHCOPMO, VDD

R3082 2K
R3085 1.8K
R3089 6.8K
R3083 1.3K, C3087 0.1, R3086 4.3K, C3089 0.1, R3090 2.7K, C3088 0.1
R3007 0 Ω, R3006 0 Ω, C3051 0.1
C3083 1, R3080 7.5K
C3084 1, R3084 7.5K
C3085 1, R3087 7.5K
C3086 1, R3088 7.5K
C3021 0.1
C3020 0.1
C3019 0.1
C3052 0.1
C3081 0.1
C3080 6.3V330
C3082 0.1

RA3031 (0 Ω X 2) — F1, F3, F4
RA3032 (0 Ω X 2) — F5, F6
RA3033 (0 Ω X 2) — F7, F8
R3031 100, C3054 22P — F9

IC3061 C3ABPG000063
MEMORY

A4, A5, A6, A7, A8, A9, A11, NC, CKE, CLK, UDQM, NC, Vss, DQ8, VDDQ, DQ9, DQ10, VSSQ, DQ11, DQ12, VDDQ, DQ13, DQ14, VSSQ, DQ15, Vss
R3061 100
VDD, A3, A2, A1, A0, A10/AP, BA1, BA0, /CS, /RAS, /CAS, /WE, LDQM, VDD, DQ7, VSSQ, DQ6, DQ5, VDDQ, DQ4, DQ3, VSSQ, DQ2, DQ1, VDDQ, DQ0, VDD
C3061 0.1, C3062 0.1, C3063 0.1, C3064 0.1, C3065 0.1, C3066 0.1, C3067 0.1

3.0V P-P, 0.2 μs. 1V/DIV.
2.4V P-P, 0.2 μs. 1V/DIV.
4V, 0V, 0.2 μs. 2V/DIV.
T ≒23 μs.
3.5V P-P, 0.2 μs. 1V/DIV.
2.8V P-P, 0.2 μs. 1V/DIV.
3.2V P-P, 0.2 μs. 1V/DIV.

R3107 33, R3106 75, Q3106 2SB1218ARTX BUFFER AMP
R3112 33, R3111 75, Q3111 2SB1218ARL BUFFER AMP
R3102 33, Q3101 2SB1218ARTX BUFFER AMP
R3117 33, R3116 75, Q3116 2SB1218ARTX BUFFER AMP
R3108 1K, C3106 0.1, C3100 6.3V100
C3101 0.1, R3103 1K
R3113 1K, C3111 0.1
R3118 1K, C3116 0.1

L3071 VLQ0860K100T
D3071 MA111TX
C3071 0.1
C3073 10V10

IC3071 C0CBCBD00002
REGULATOR

5V VIN, VO 3.3V, GND, GND, 5V VC, NR 1.2V
C3072 0.1
R3101 75

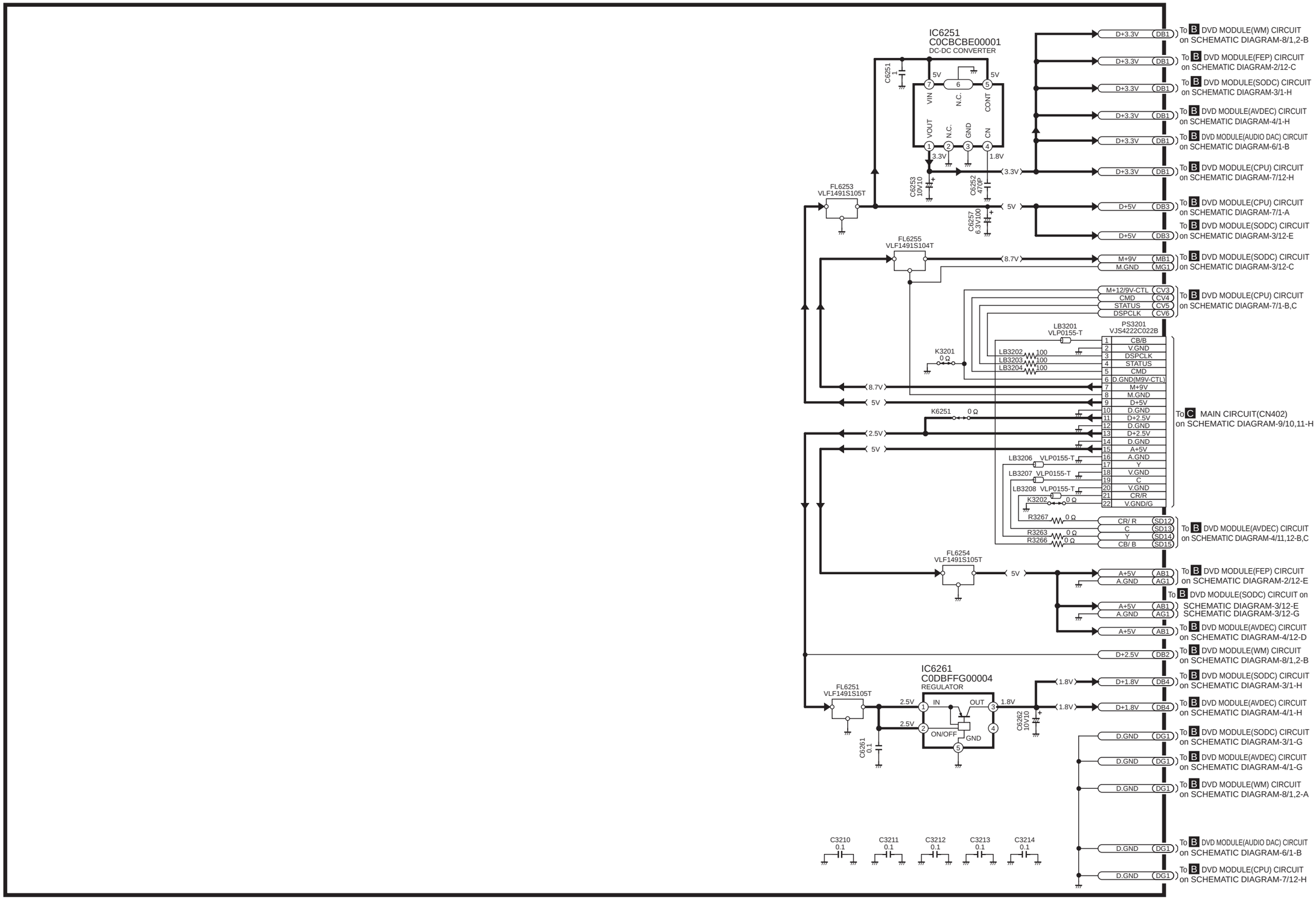
5V — A+5V (AB1)
5V — VOUTA5V (VD9)
C (SD13), CR/ R (SD12), Y (SD14), CB/ B (SD15)
A AOUT2 (AD3), B AOUT1 (AD4), C AOUT0 (AD5), D SRCK (AD7), E LRCK (AD8)
F1 EXTCLK (AD1), F3 AOUT2 (AD3), F4 AOUT1 (AD4), F5 AOUT0 (AD5), F6 DMIXOUT (AD6), F7 SRCK (AD7), F8 LRCK (AD8), F9 AUDIO DIGITAL (AD9)

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-C
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/1-H
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-D
To B DVD MODULE (WM) CIRCUIT on SCHEMATIC DIAGRAM-8/1,2-G
To B DVD MODULE (AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/1-C / SCHEMATIC DIAGRAM-6/1-F / SCHEMATIC DIAGRAM-6/1-H / SCHEMATIC DIAGRAM-6/1-F / SCHEMATIC DIAGRAM-6/12-E

SCHEMATIC DIAGRAM–5

B DVD MODULE(VIDEO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO SIGNAL LINE



SL-DT300(EG) DVD MODULE(VIDEO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–6

B DVD MODULE(AUDIO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AD6 DMIXOUT

To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/12-G
AC1 SBI1
AC2 SBO1
AC3 SBT1
AC4 STBDAC

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AD7 SRCK
AD8 LRCK

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AD5 AOUT0
AD4 AOUT1
AD3 AOUT2

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-H
SCHEMATIC DIAGRAM-5/12-A
DB1 D+3.3V
DG1 D.GND

IC4211
C0FBBK000022
AUDIO D/A CONVERTER

IC6501
C1DB00000582
CLOCK GENERATOR

IC6521
C0JBAB000356
NOT GATE

FL4201
VLF1491S105T

PS4201
K1KB26A00027

To C MAIN CIRCUIT (CN403) on SCHEMATIC DIAGRAM-9/ 7,8-H

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/12-A
AUDIO DIGITAL AD9

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/12-C
TRAY/TRV SA2
TRAYMUT SA5
TRAYDRV SA4
TRAYREF SA3

To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-D
TRV-SW+ FS13

To B DVD MODULE (CPU) CIRCUIT on
AC3H AC5 SCHEMATIC DIAGRAM-7/12-G
AMUT AC6 SCHEMATIC DIAGRAM-7/1-E
CLK33M AC7 SCHEMATIC DIAGRAM-7/1-D
CLKSEL AC8 SCHEMATIC DIAGRAM-7/1-E

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-A
CLK16M SA1

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/12-B
EXTCLK AD1

To B DVD MODULE (WM) CIRCUIT on SCHEMATIC DIAGRAM-8/ 7,8-D
CLK36M AC9

SL-DT300(EG) DVD MODULE(AUDIO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–7

B DVD MODULE(CPU) CIRCUIT

:POSITIVE VOLTAGE LINE

IC6211
PST596JNR
RESET

QR6215
UN5212TX
RESET

QR6215

IC6301
C3FBMG000012
16M FLASH ROM

IC6201
MN102H60GFB
CPU

IC6222
C0JBAA000001
AND GATE

IC6223
C0JBAA000001
AND GATE

IC6221
C3EBFC000025
EE PROM

LB6201 VLP0323A601R

LB6202 VLP0155-T

LB6221 VLP0323A601R

PS6201
VJS4047C010

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-E

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-G

To B DVD MODULE (WM) CIRCUIT on SCHEMATIC DIAGRAM-8/7,8-F

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-G

SCHEMATIC DIAGRAM-3/1-E

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-E

To B DVD MODULE (AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/12-C

To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-E

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-E

To B DVD MODULE (AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/12-C

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-F

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/1-B

To B DVD MODULE (FEP) CIRCUIT on SCHEMATIC DIAGRAM-2/1-B
SCHEMATIC DIAGRAM-2/12-D

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-G

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-G
SCHEMATIC DIAGRAM-5/12-A

To B DVD MODULE (AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/1-H
SCHEMATIC DIAGRAM-6/12-D

To B DVD MODULE (WM) CIRCUIT on SCHEMATIC DIAGRAM-8/ 7-D

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-E

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-F

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-E

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-D

To B DVD MODULE (WM) CIRCUIT on SCHEMATIC DIAGRAM-8/7,8-A

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-D,E

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-C

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1-B

B DVD MODULE(WM) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1,2-A

To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/11,12-B

IC6801
MN5B00
WM

To B DVD MODULE(CPU) CIRCUIT on SCHEMATIC DIAGRAM–7/1,2-G

To B DVD MODULE(AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM–6/12,A

To B DVD MODULE(CPU) CIRCUIT on SCHEMATIC DIAGRAM–7/11,12-F

To B DVD MODULE(CPU) CIRCUIT on SCHEMATIC DIAGRAM–7/11,12-C

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11,12-H

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11,12-C

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11,12-B

SCHEMATIC DIAGRAM–9

:AUDIO SIGNAL LINE
:VIDEO SIGNAL LINE
:POSITIVE VOLTAGE LINE

D OPERATION(1) CIRCUIT

E OPERATION(2) CIRCUIT

C MAIN CIRCUIT

To B DVD MODULE(AUDIO DAC)CIRCUIT(PS4201) on SCHEMATIC DIAGRAM-6/11,12-E,F

To B DVD MODULE(VIDEO DAC)CIRCUIT(PS3201) on SCHEMATIC DIAGRAM-5/11,12-E

IC601
BU2050F-E2
LED DRIVE

IC501
C9ZB00000394
8bit MICRO CONTROLLER

IC805
NJM4580EDTE1
MIXING AMP

IC402
C2BBFD000350
SYSTEM CONTROL

Q804
B1GFGCAA0001
MUTING

Q407
DTC114EUA106
MUTING CONT.

Q406
UN5111TX
MUTING CONT.

Q405
DTC114EUA106
MUTING CONT.

Q404
UN5214TX
RESET

Q505
DTC114EUA106
SWITCHING
(D WIDE1)

Q403
2SD1819ATX
INTERFACE

Q402
2SD1819ATX
INTERFACE

Q401
2SD1819ATX
INTERFACE

S1001
(TRAY OPEN/
CLOSE DET.)

S601 (▶ PLAY)
S602 (❚❚ PAUSE)
S603 (■ STOP)
S605 (OPEN/ CLOSE)

D606 B3AHA0000009 (PLAY)
D604 SELS5923C (PAUSE)
D603 SELS5923C (STOP)
D601 SELS5923C (OPEN/ CLOSE)

VIDEO OUTPUT
S- VIDEO OUT

X401 (8MHz)

SL-DT300(EG) OPERATION(1),OPERATION(2),MAIN CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–10

C MAIN CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE

IC804 NJM4580EDTE1 BUFFER AMP

IC803 NJM4580EDTE1 BUFFER AMP

IC802 NJM4580EDTE1 BUFFER AMP

Q803 B1GFGCAA0001 MUTING

Q802 B1GFGCAA0001 MUTING

Q801 B1GFGCAA0001 MUTING

Q1 2SD874QRSTX REGULATOR

IC801 BA4558FHTT1 VREF

IC2 C0DBZHE00011 REGULATOR

IC3 C0CBAAE00014 REGULATOR

IC4 C0DBZHE00011 REGULATOR

IC5 NJM78M05FA REGULATOR

IC6 C0CAAHF00001 REGULATOR

IC7 PQ1CZ31H2ZP DC-DC CONVERTER

IC1 PQ1CZ31H2ZP DC-DC CONVERTER

Q3 2SB766ATX REGULATOR

Q2 FMW1T98 STABILIZER

CN1 SYNC, CD REQ, CT.GND, CS, DC10V, D.GND, SCLK, DATA, V.GND, SW OUT, C OUT, +B(13V), MIX R OUT, MIX L OUT, FR OUT, A.GND, FL OUT, SR OUT, SL OUT

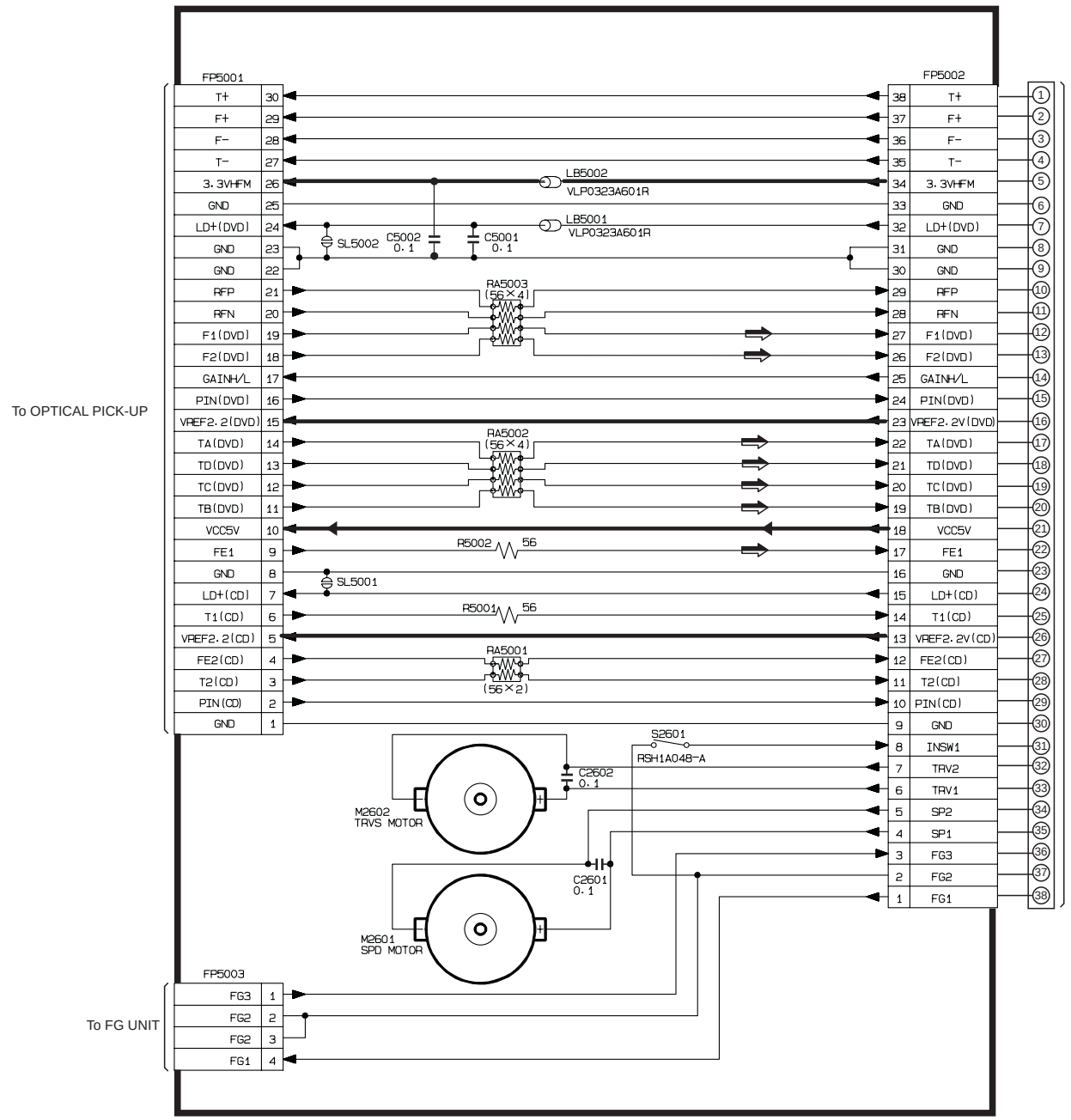
To SA-DT300(CN301)

SL-DT300(EG) MAIN CIRCUIT DIAGRAM

NOTE:
The number which noted at the connectors on the schematic diagram as
"SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2"
indicates the schematic diagram serial number located on the left corner in the schematic diagram.

A TERMINAL SERVO CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/AUDIO SIGNAL LINE

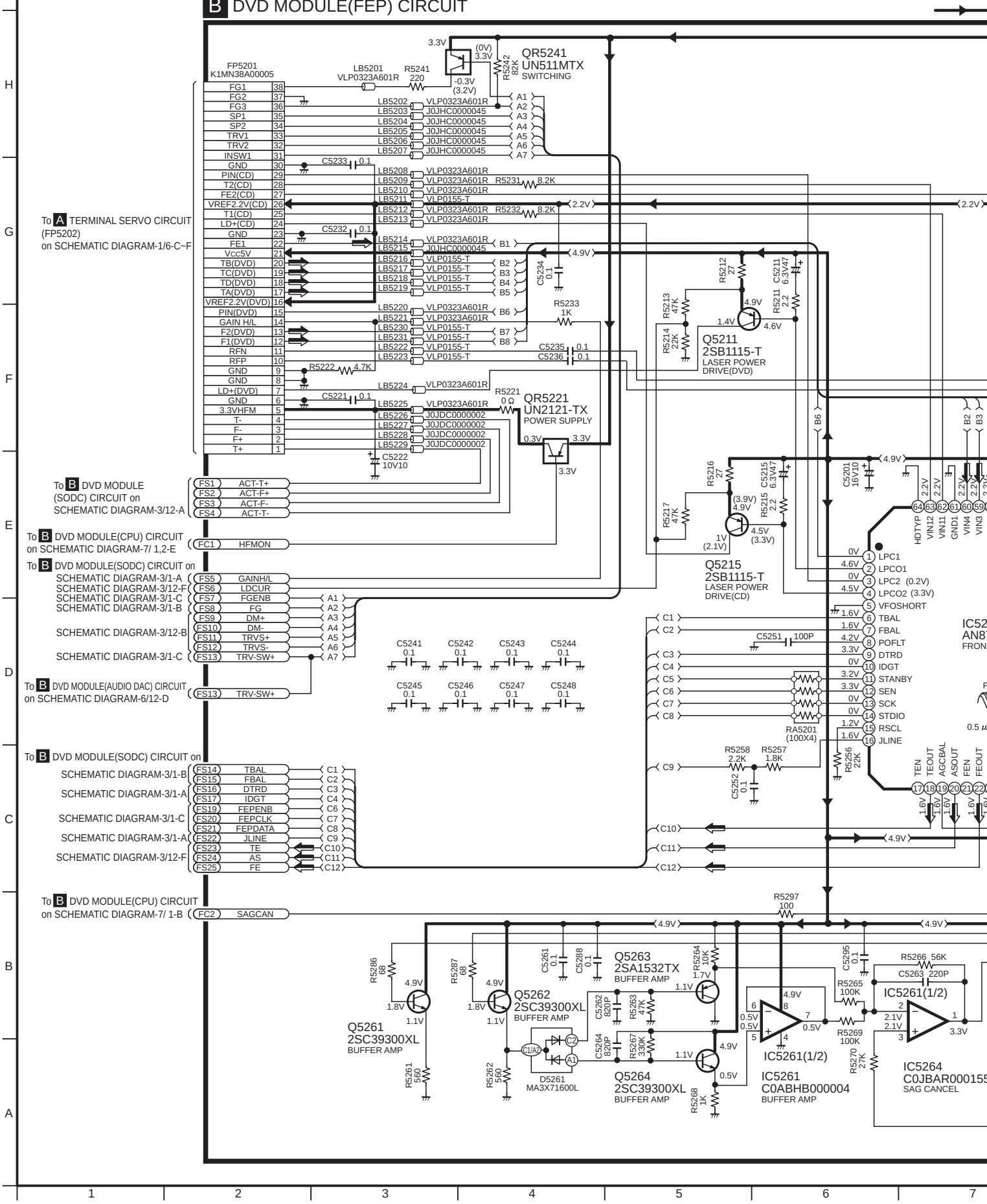


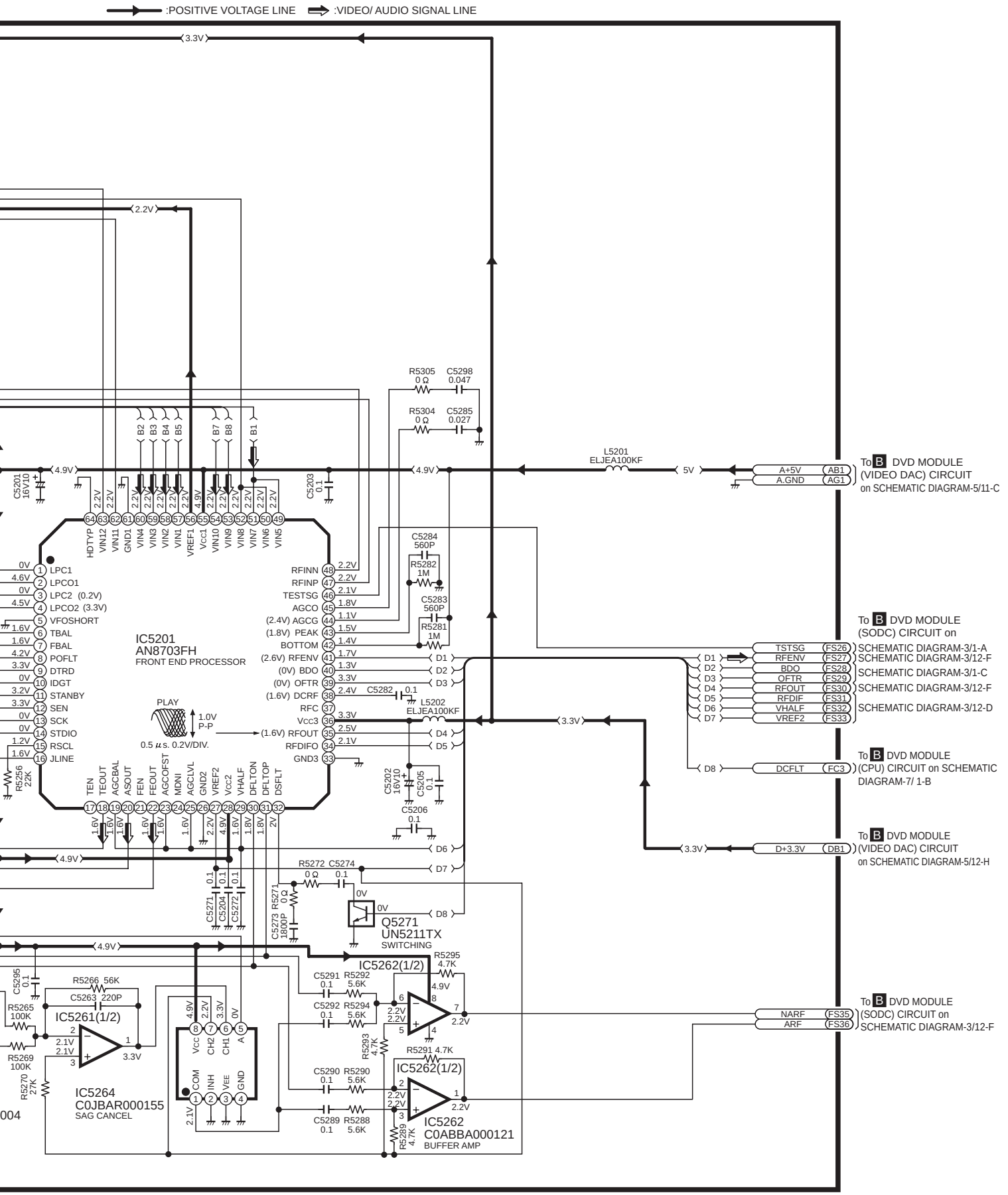
SL-DT300(EG) TERMINAL SERVO CIRCUIT DIAGRAM

To B DVD MODULE(FEP) CIRCUIT
(FP5201) on SCHEMATIC DIAGRAM–2/2-F~H

SCHEMATIC DIAGRAM-2

B DVD MODULE(FEP) CIRCUIT

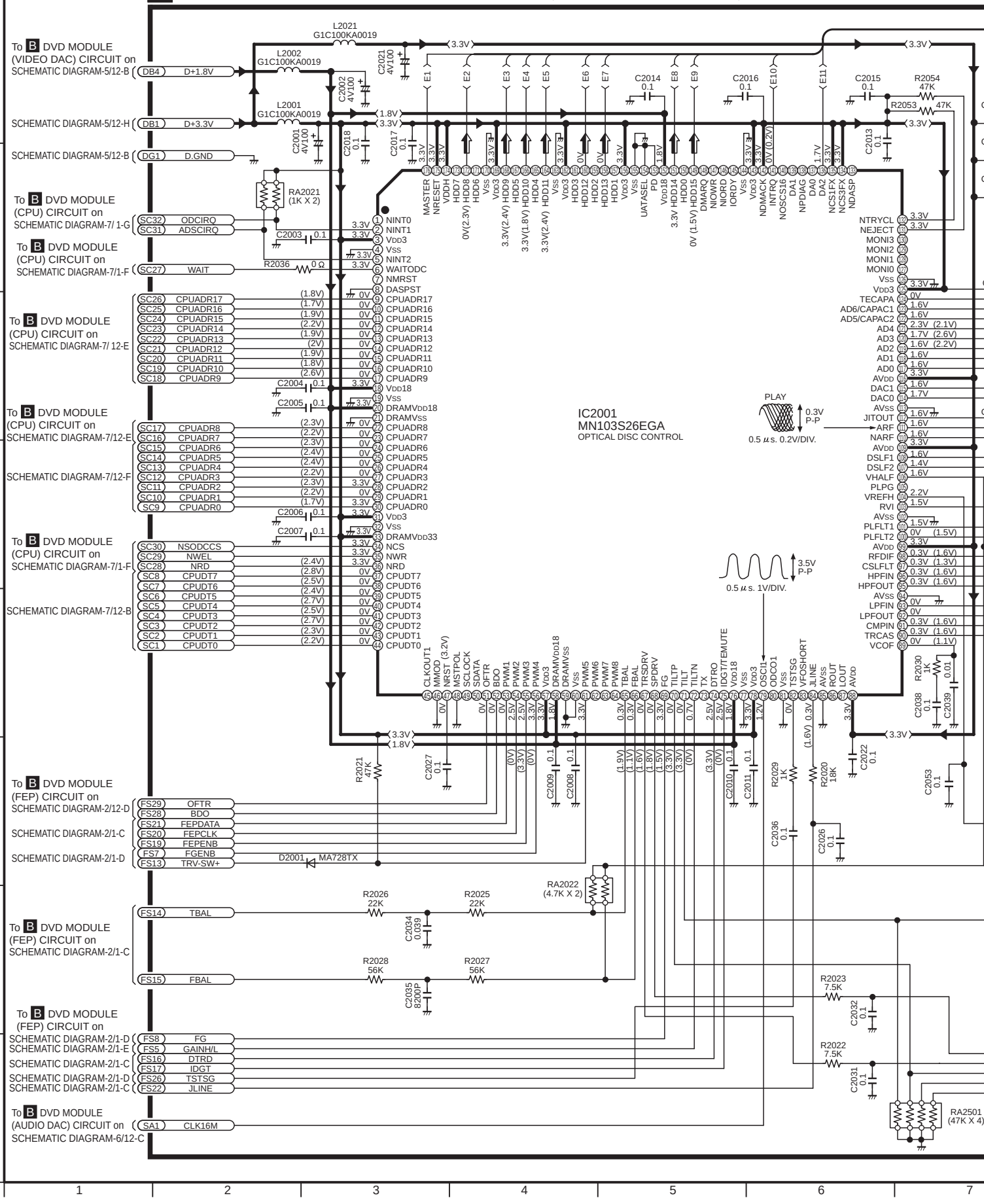



:POSITIVE VOLTAGE LINE
:VIDEO/ AUDIO SIGNAL LINE
IC5201
AN8703FH
FRONT END PROCESSOR
IC5261(1/2)
IC5262(1/2)
IC5264
C0JBAR000155
SAG CANCEL
IC5262
C0ABBA000121
BUFFER AMP
Q5271
UN5211TX
SWITCHING
L5201
ELJEA100KF
L5202
ELJEA100KF
To B DVD MODULE
(VIDEO DAC) CIRCUIT
on SCHEMATIC DIAGRAM-5/11-C
To B DVD MODULE
(SODC) CIRCUIT on
SCHEMATIC DIAGRAM-3/1-A
SCHEMATIC DIAGRAM-3/12-F
SCHEMATIC DIAGRAM-3/1-C
SCHEMATIC DIAGRAM-3/12-F
SCHEMATIC DIAGRAM-3/12-D
To B DVD MODULE
(CPU) CIRCUIT on SCHEMATIC
DIAGRAM-7/ 1-B
To B DVD MODULE
(VIDEO DAC) CIRCUIT
on SCHEMATIC DIAGRAM-5/12-H
To B DVD MODULE
(SODC) CIRCUIT on
SCHEMATIC DIAGRAM-3/12-F

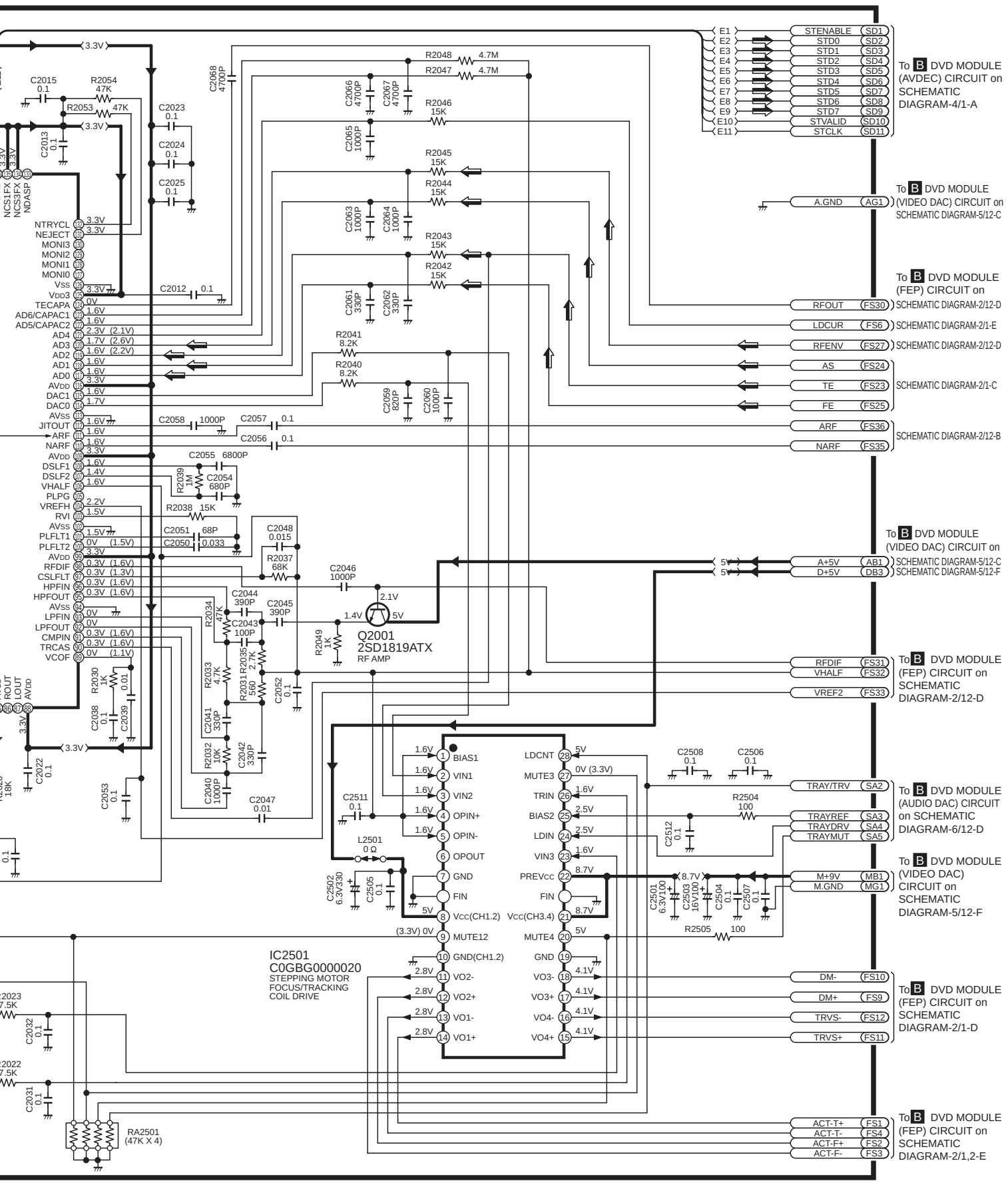
SCHEMATIC DIAGRAM–3

B DVD MODULE(SODC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/ AUDIO SIGNAL LINE



SIGNAL LINE

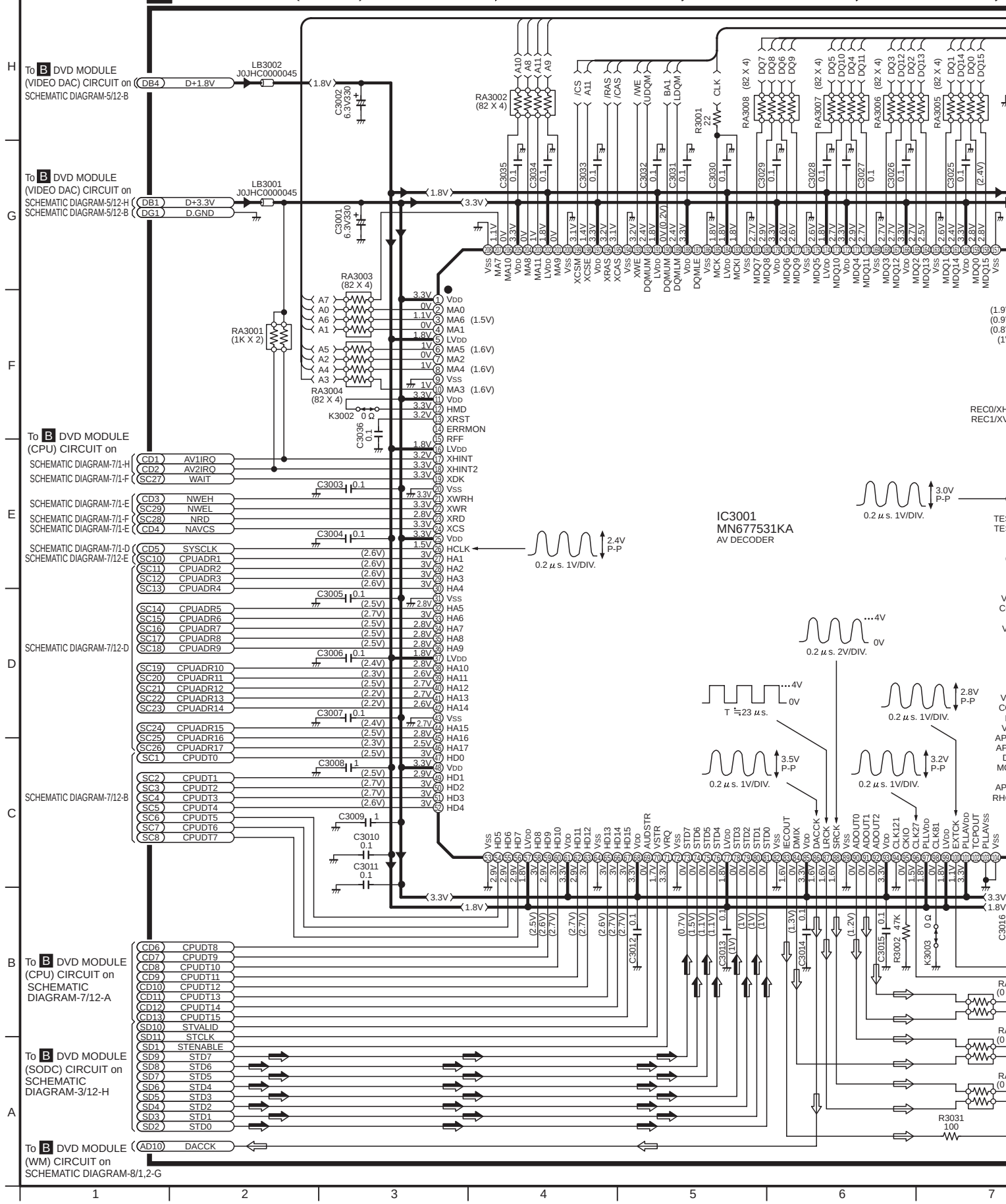


SL-DT300(EG) DVD MODULE(SODC) CIRCUIT DIAGRAM

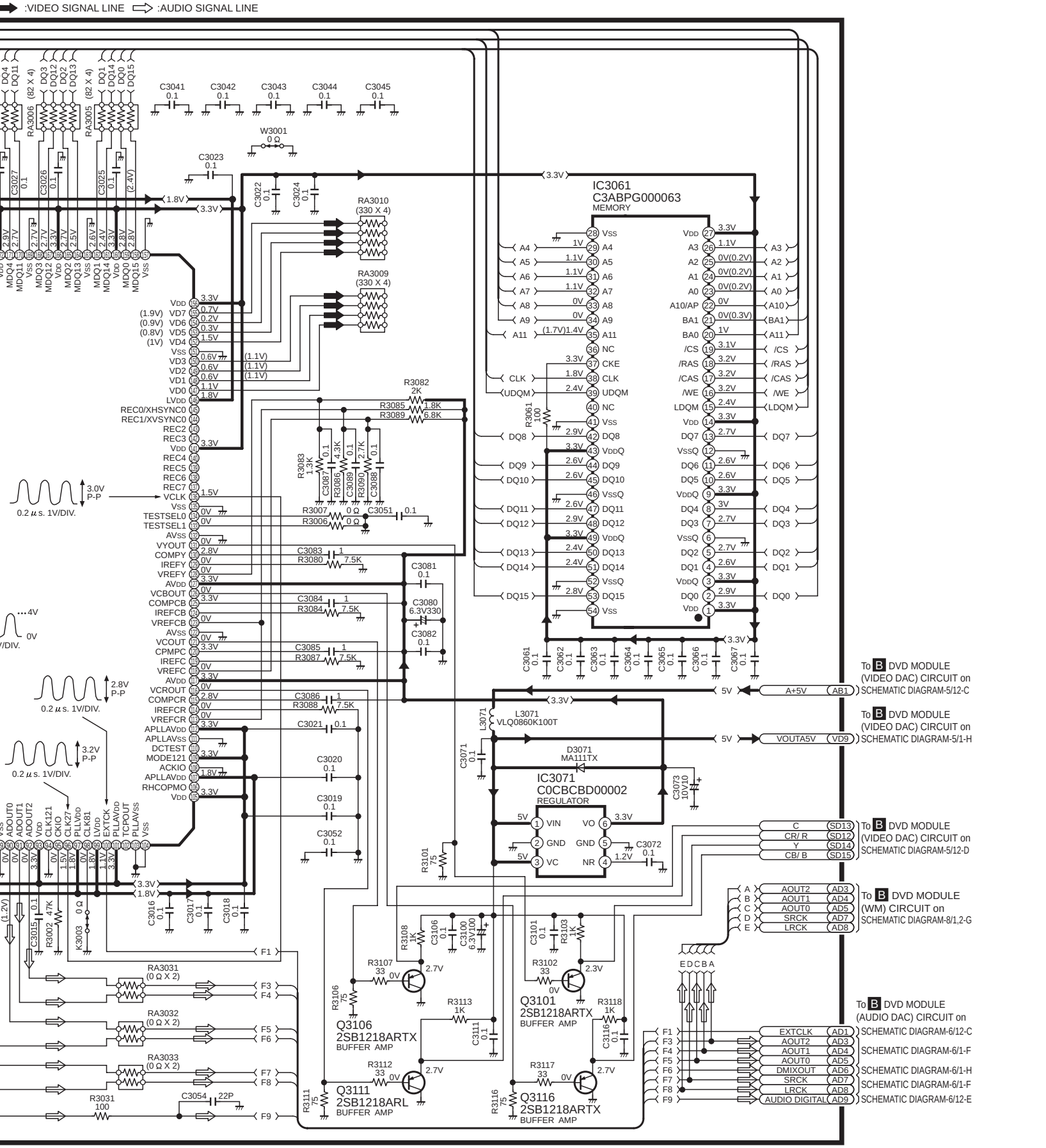
SCHEMATIC DIAGRAM-4

B DVD MODULE(AVDEC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/ AUDIO SIGNAL LINE :VIDEO SIGNAL LINE



1	2	3	4	5	6	7

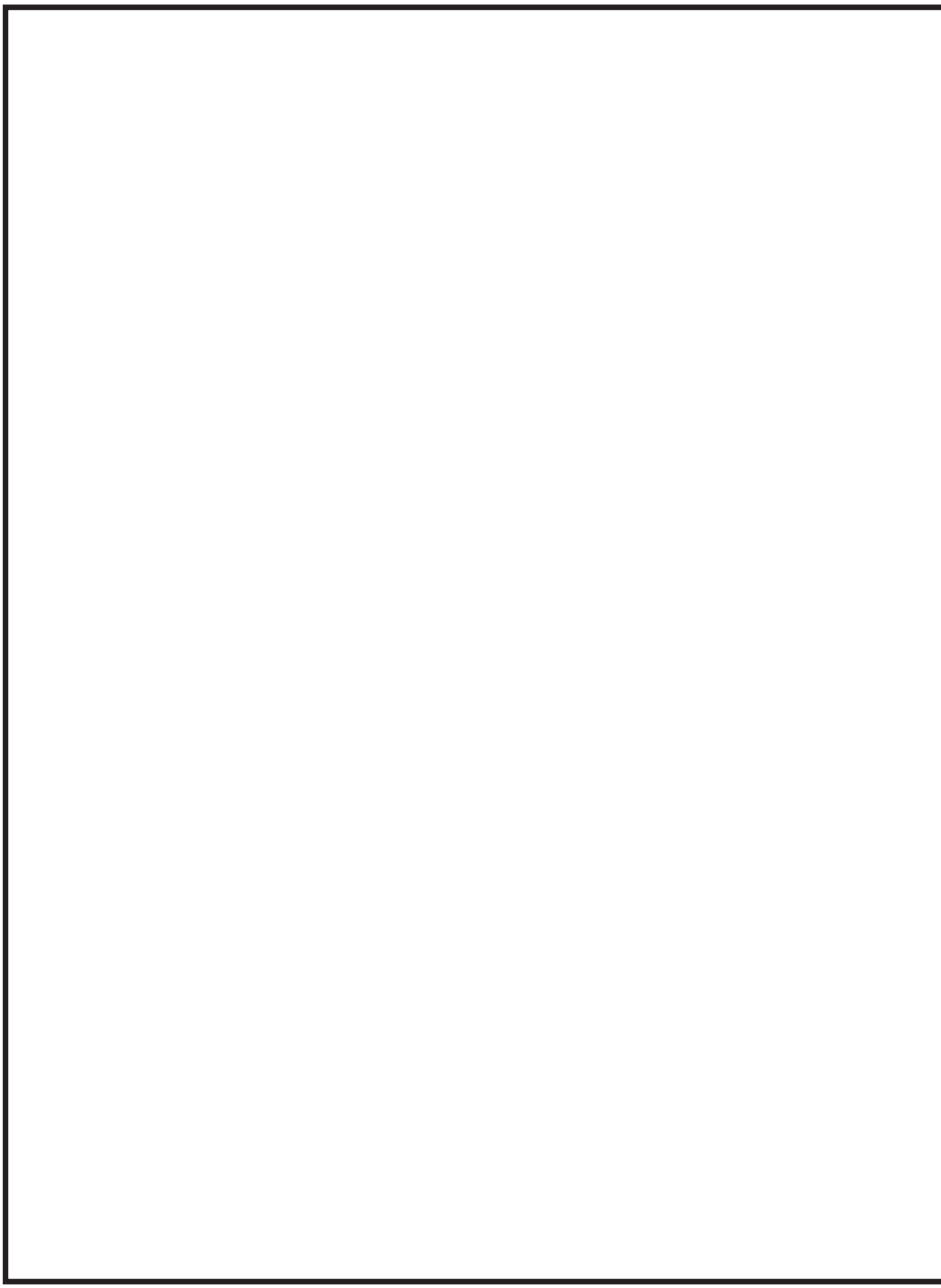


SL-DT300(EG) DVD MODULE(AVDEC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-5

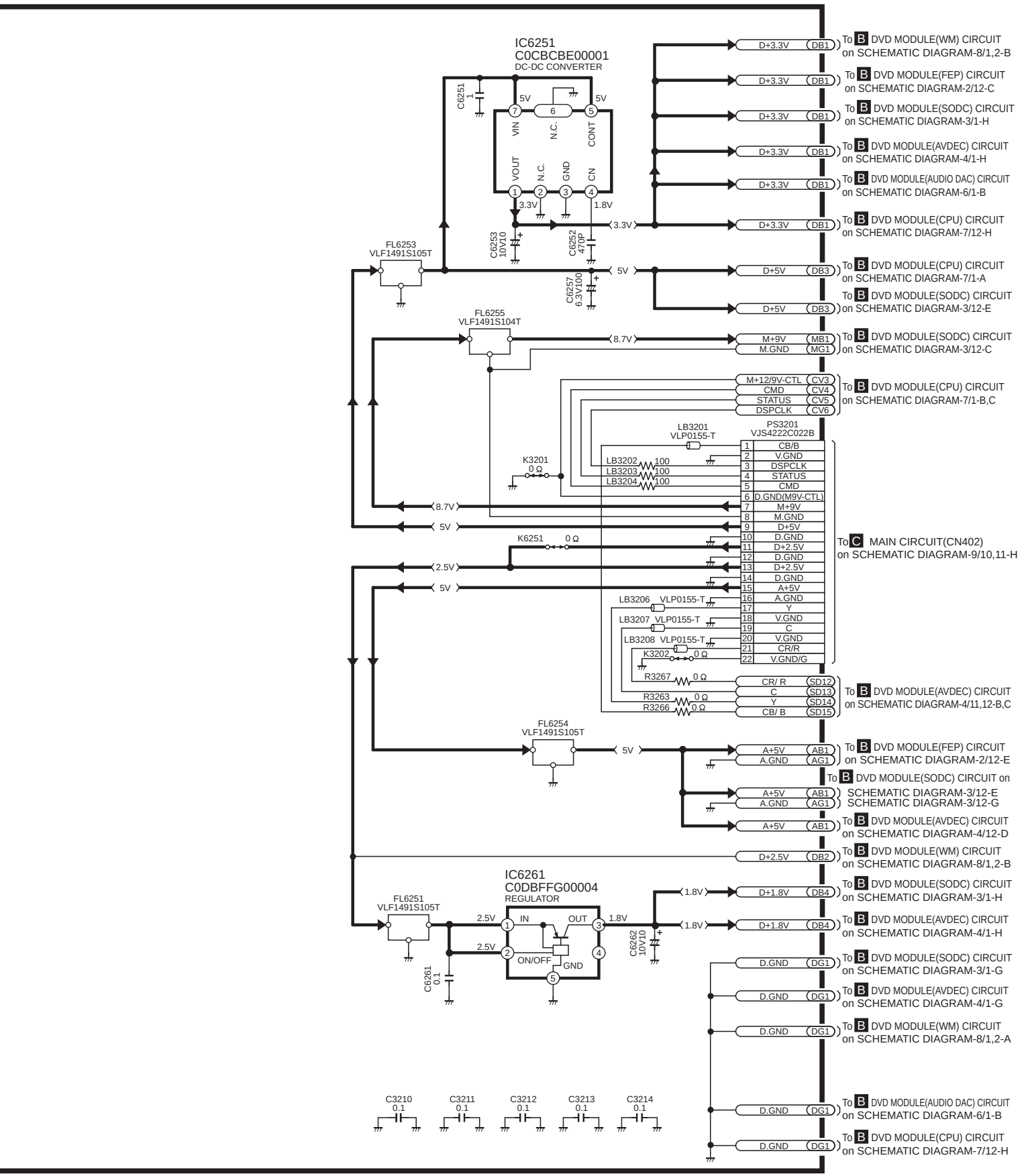
B DVD MODULE(VIDEO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO SIGNAL LINE



H G F E D C B A

1 2 3 4 5 6 7

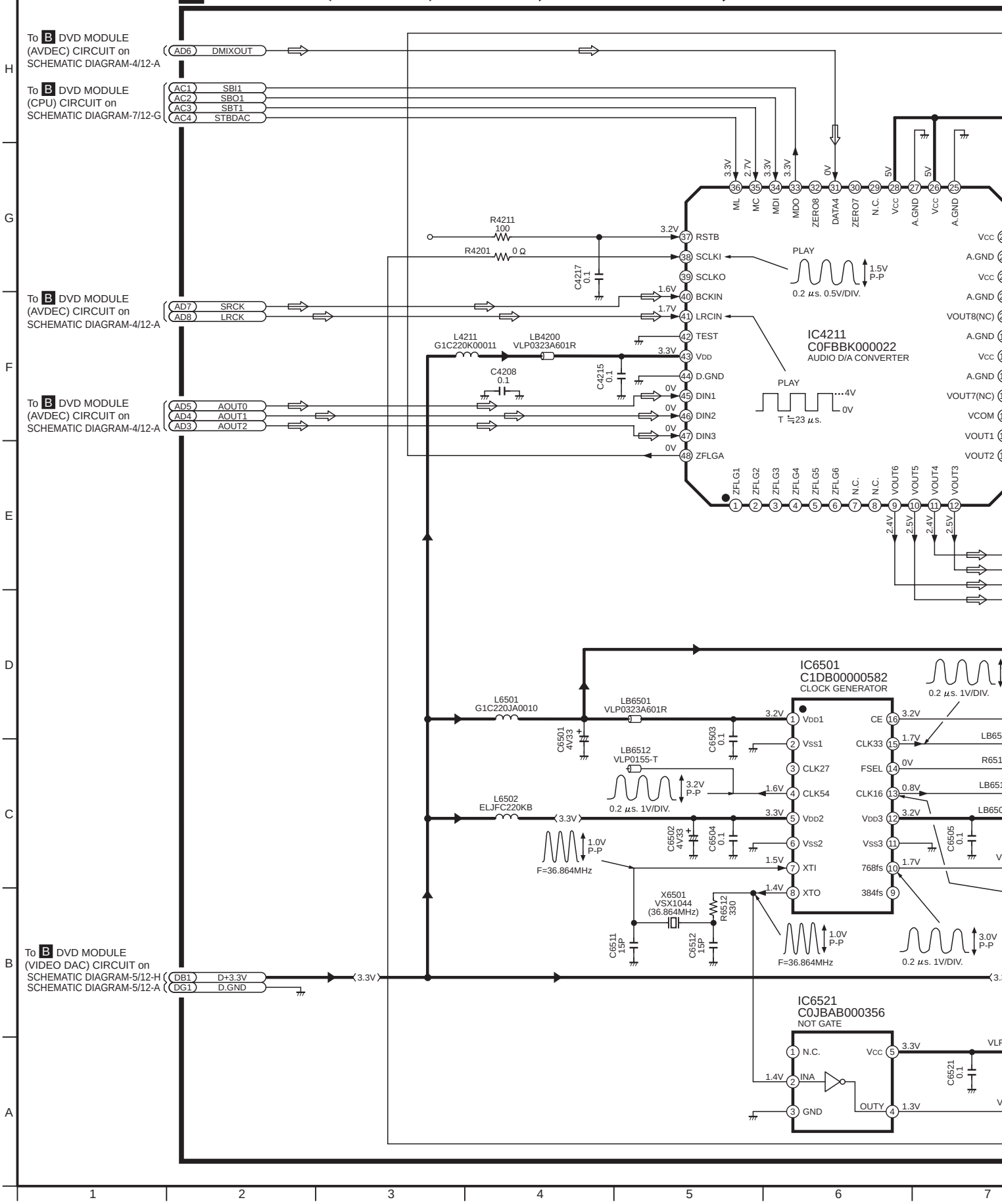


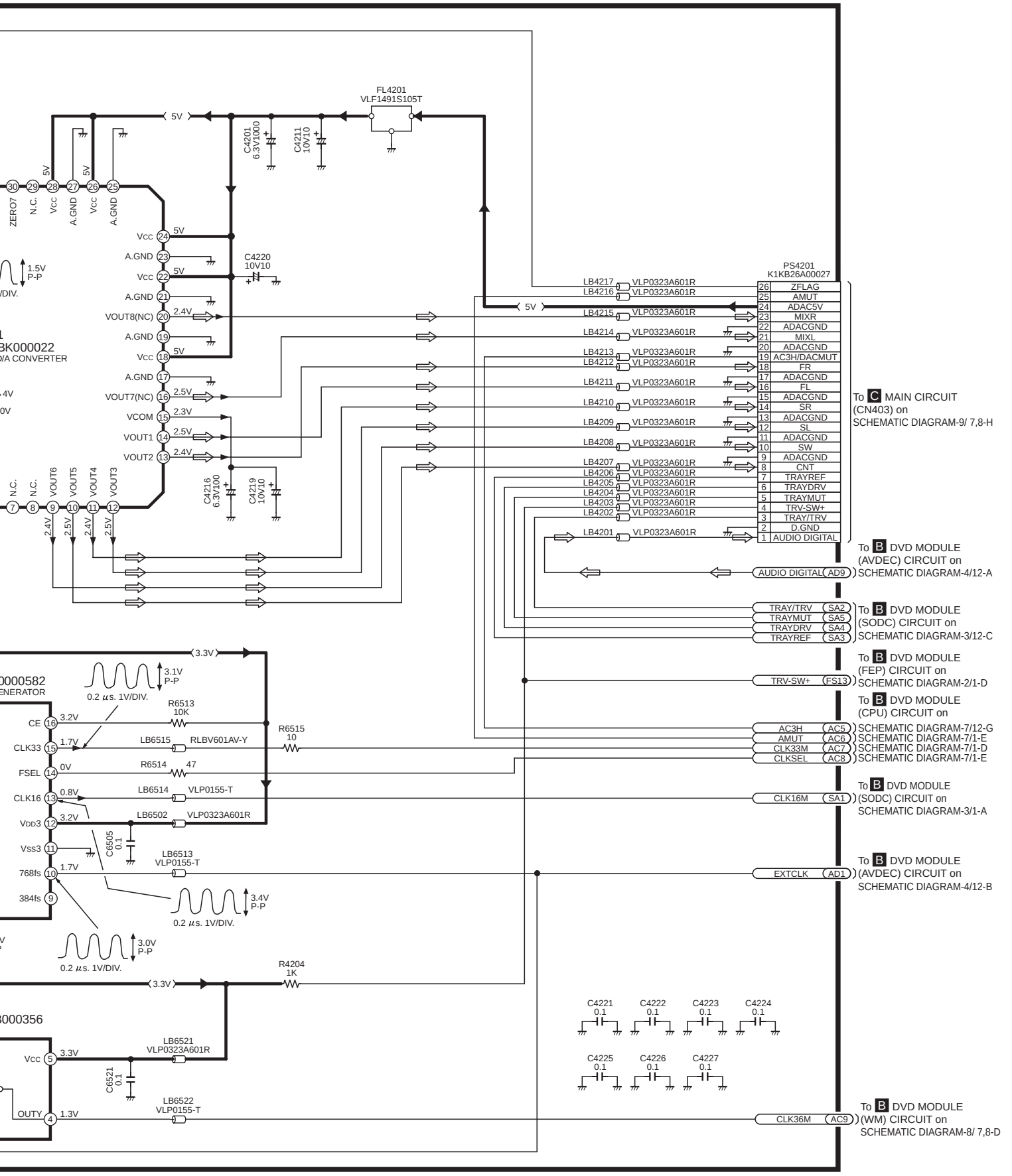
SL-DT300(EG) DVD MODULE(VIDEO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-6

B DVD MODULE(AUDIO DAC) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE



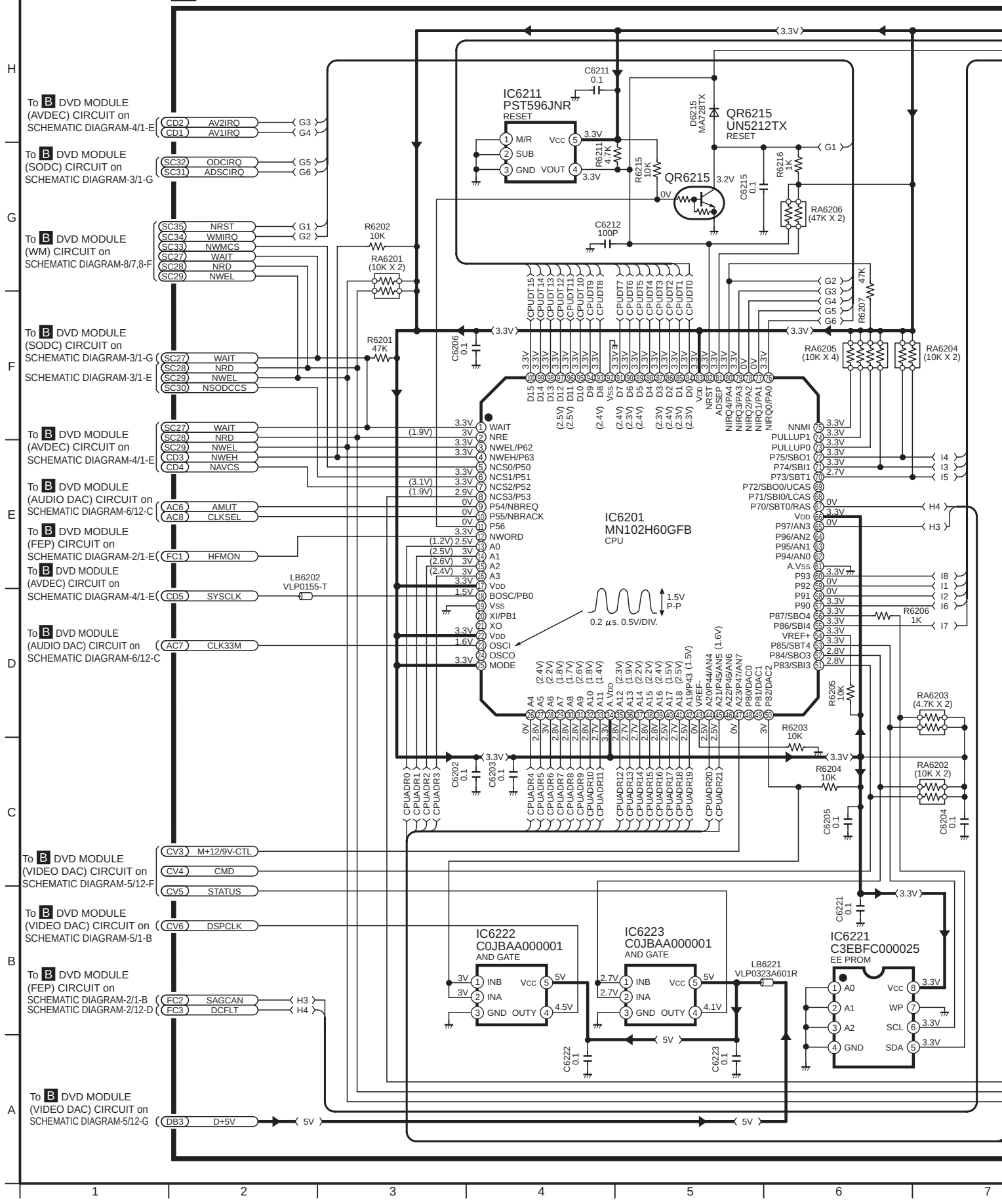


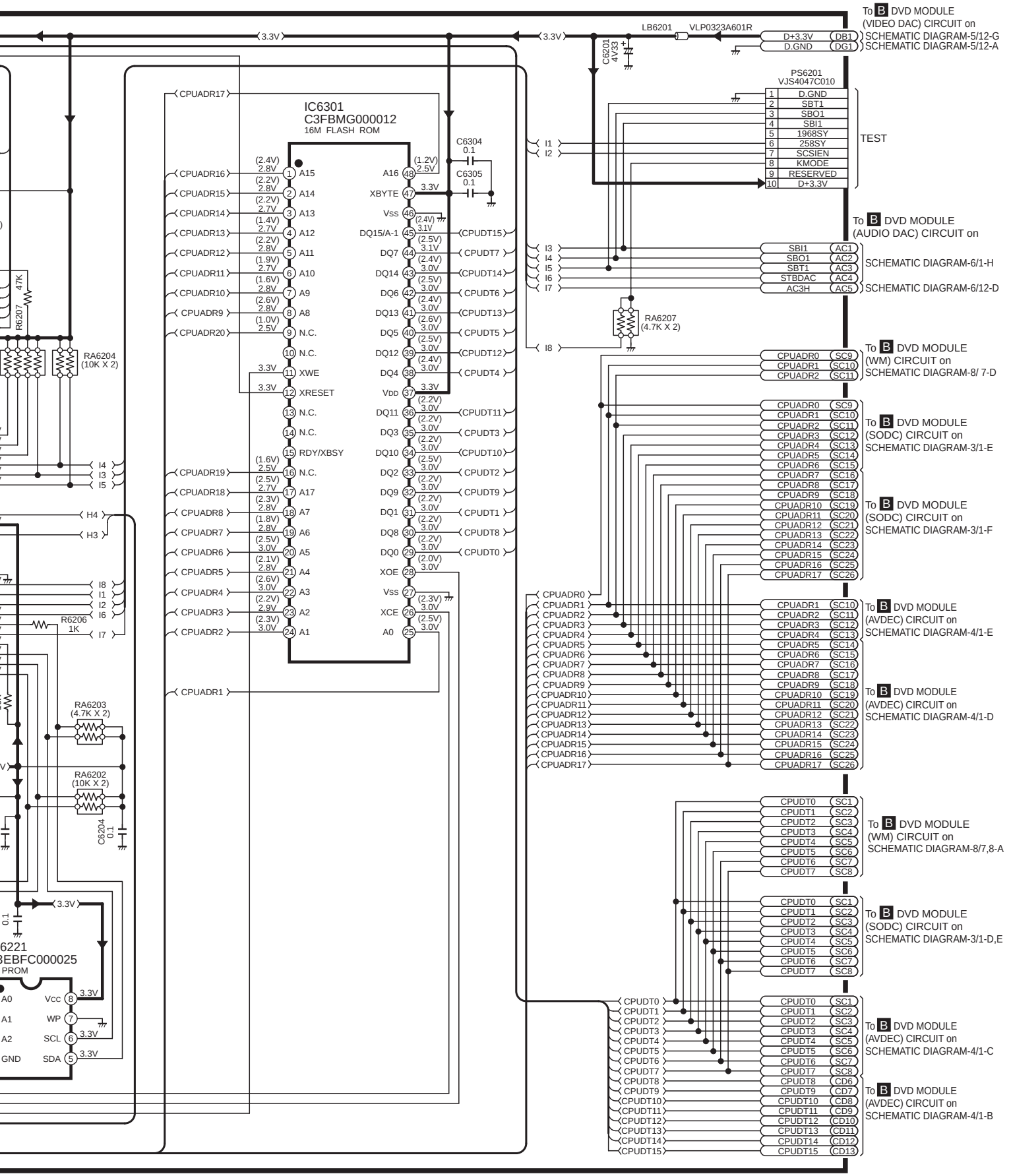
SL-DT300(EG) DVD MODULE(AUDIO DAC) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–7

B DVD MODULE(CPU) CIRCUIT

:POSITIVE VOLTAGE LINE

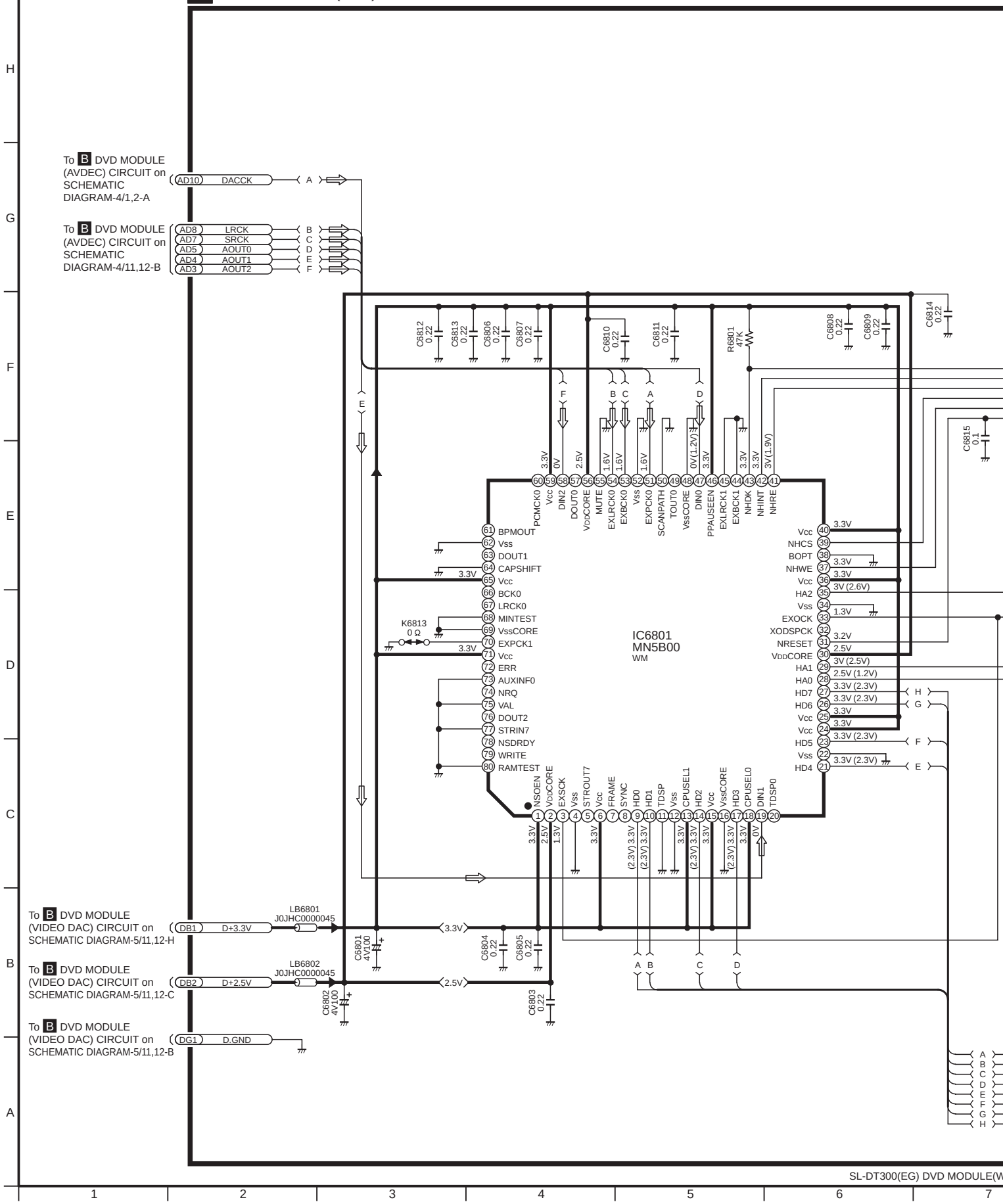


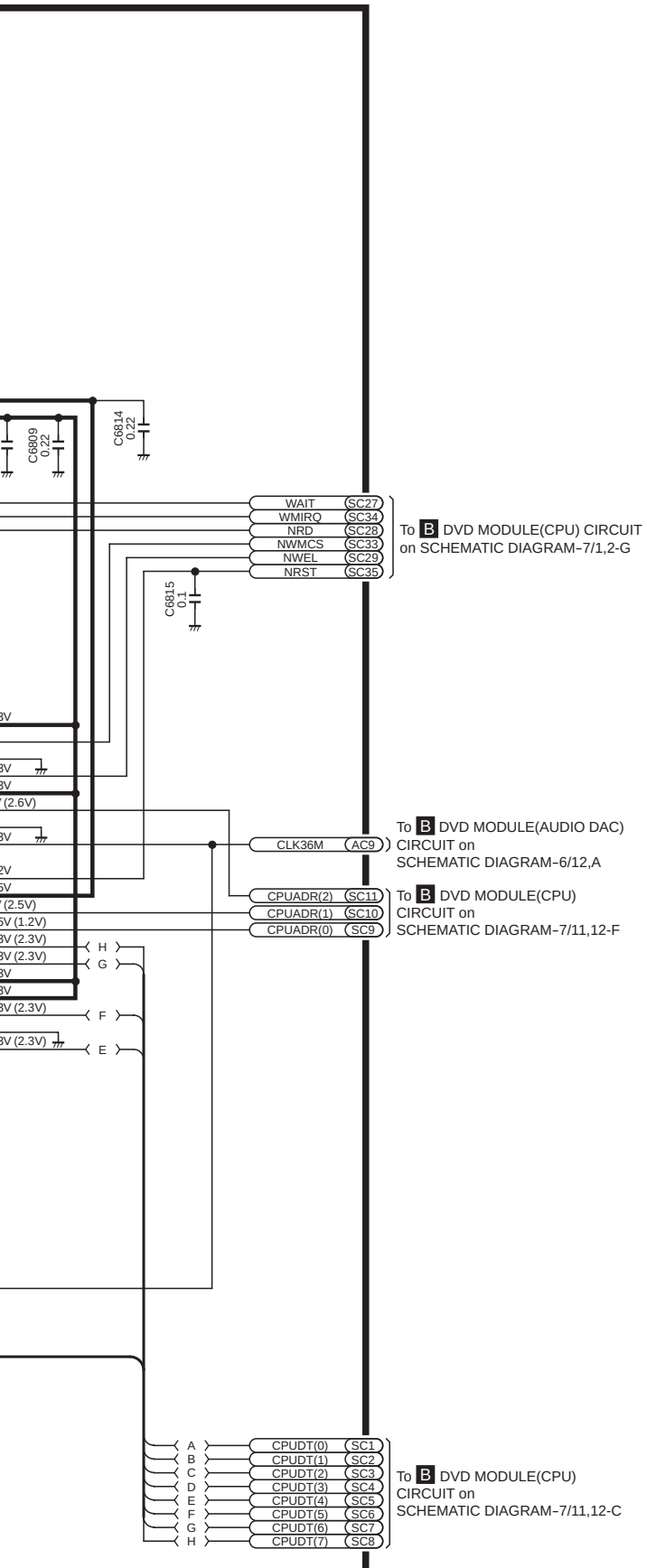


SL-DT300(EG) DVD MODULE(CPU) CIRCUIT DIAGRAM

B DVD MODULE(WM) CIRCUIT

:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE


To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/1,2-A
AD10 DACCK A
To B DVD MODULE (AVDEC) CIRCUIT on SCHEMATIC DIAGRAM-4/11,12-B
AD8 LRCK B
AD7 SRCK C
AD5 AOUT0 D
AD4 AOUT1 E
AD3 AOUT2 F
IC6801
MN5B00
WM
PCMCK0 Vcc DIN2 DOUT0 VDDCORE MUTE EXLRCK0 EXBCK0 Vss EXPCK0 SCANPATH TOUT0 VSSCORE DIN0 PPAUSEEN EXLRCK1 EXBCK1 NHDK NHINT NHRE
BPMOUT Vss DOUT1 CAPSHIFT Vcc BCK0 LRCK0 MINTEST VssCORE EXPCK1 Vcc ERR AUXINF0 NRQ VAL DOUT2 STRIN7 NSDRDY WRITE RAMTEST
Vcc NHCS BOPT NHWE Vcc HA2 Vss EXOCK XODSPCK NRESET VDDCORE HA1 HA0 HD7 HD6 Vcc Vcc HD5 Vss HD4
NSOEN VDDCORE EXSCK Vss STROUT7 Vcc FRAME SYNC HD0 HD1 TDSP Vss CPUSEL1 HD2 Vcc VssCORE HD3 CPUSEL0 DIN1 TDSP0
K6813 0 Ω
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11,12-H
DB1 D+3.3V LB6801 J0JHC0000045
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11,12-C
DB2 D+2.5V LB6802 J0JHC0000045
To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11,12-B
DG1 D.GND
C6801 4V100
C6802 4V100
C6803 0.22
C6804 0.22
C6805 0.22
C6806 0.22
C6807 0.22
C6808 0.22
C6809 0.22
C6810 0.22
C6811 0.22
C6812 0.22
C6813 0.22
C6814 0.22
C6815 0.1
R6801 47K



SL-DT300(EG) DVD MODULE(WM) CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-9

:AUDIO SIGNAL LINE
:VIDEO SIGNAL LINE
:POSITIVE VOLTAGE LINE

D OPERATION(1) CIRCUIT

C MAIN CIRCUIT

E OPERATION(2) CIRCUIT

IC601
BU2050F-E2
LED DRIVE

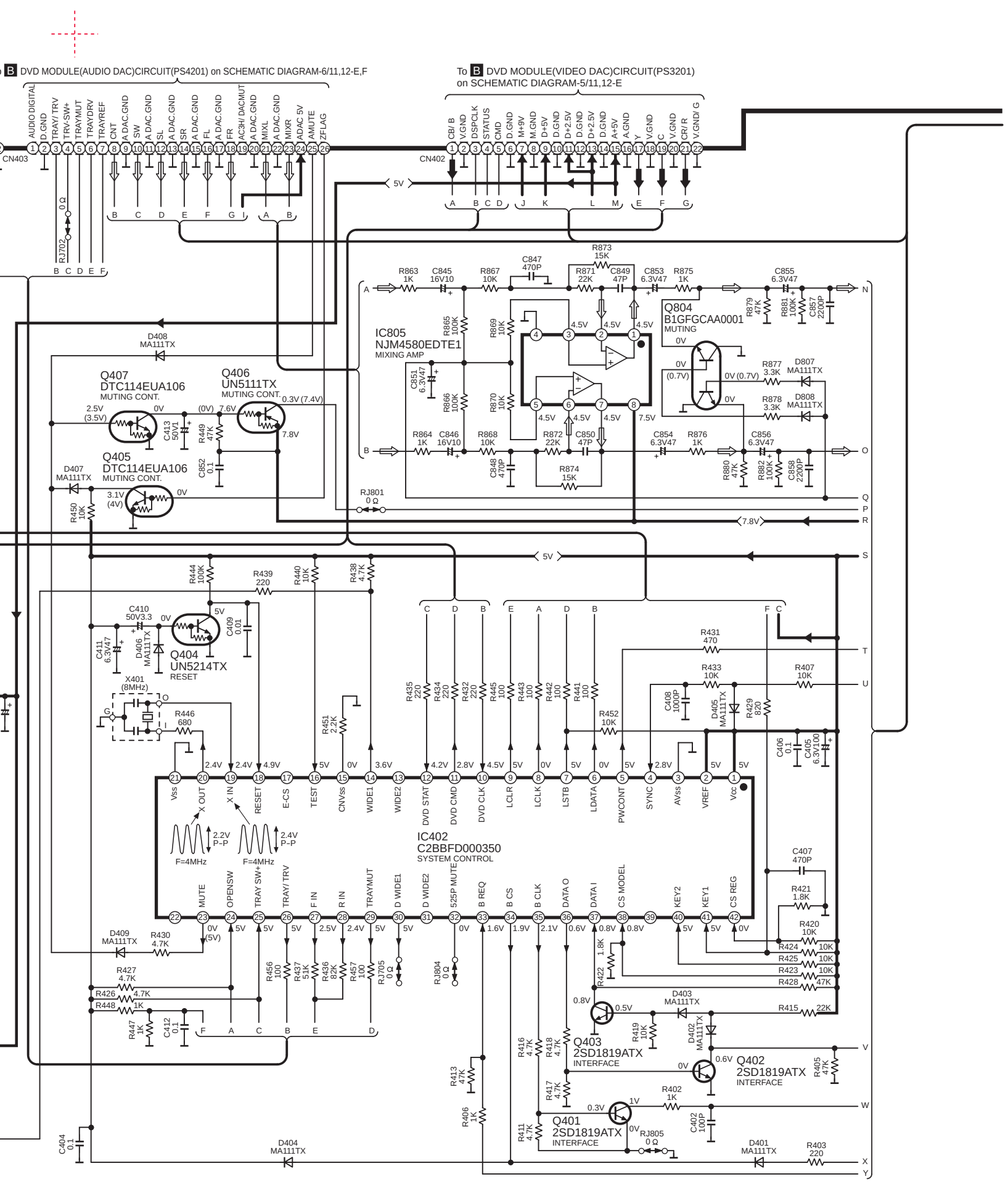
IC501
C9ZB00000394
8bit MICRO CONTROLLER

Q505
DTC114EUA106
SWITCHING
(D WIDE1)

Q407
DTC114E
MUTING CO

Q405
DTC114E
MUTING CO

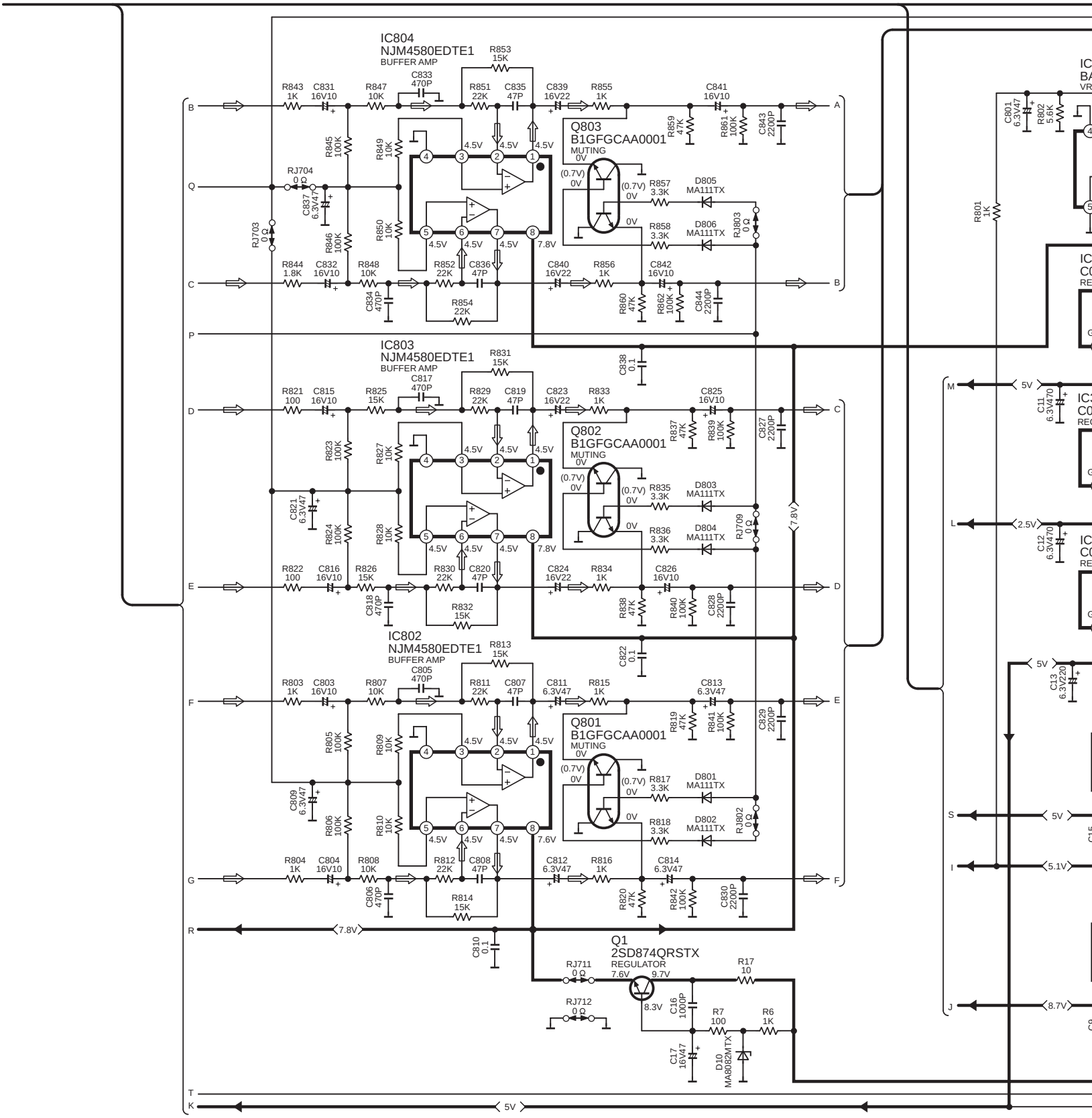
To B DVD MODULE(AUDIO DAC)CIR

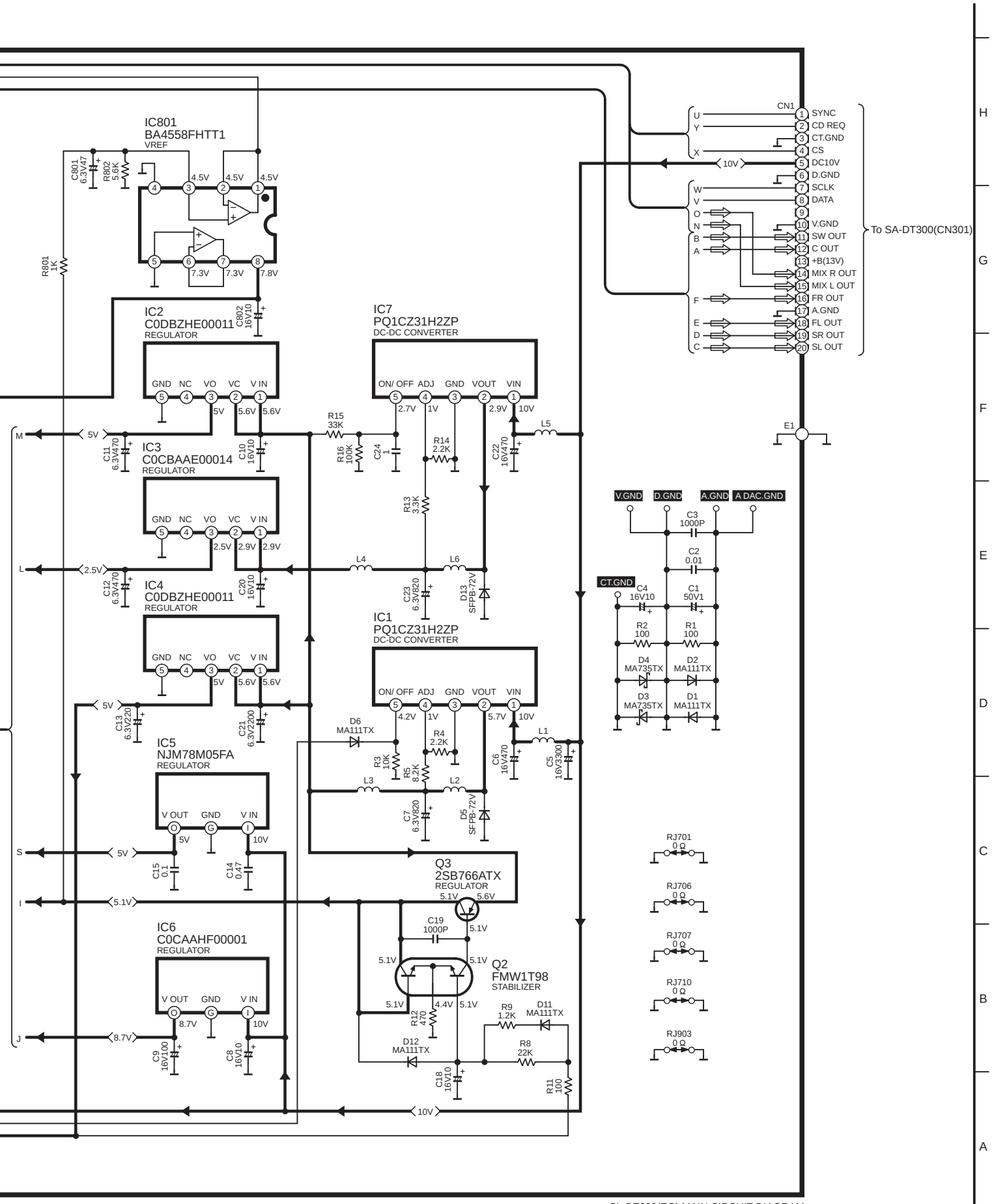

B DVD MODULE(AUDIO DAC)CIRCUIT(PS4201) on SCHEMATIC DIAGRAM-6/11,12-E,F
To B DVD MODULE(VIDEO DAC)CIRCUIT(PS3201) on SCHEMATIC DIAGRAM-5/11,12-E
CN403
CN402
AUDIO DIGITAL
D.GND
TRAY/ TRV
TRV-SW+
TRAYMUT
TRAYDRV
TRAYREF
CNT
A DAC.GND
SW
A DAC.GND
SL
A DAC.GND
SR
A DAC.GND
FL
A DAC.GND
FR
AC3H/ DACMUT
A DAC.GND
MIXL
A DAC.GND
MIXR
ADAC 5V
AMUTE
ZFLAG
CB/ B
V.GND
DSPCLK
STATUS
CMD
D.GND
M+9V
M.GND
D+5V
D.GND
D+2.5V
D.GND
D+2.5V
D.GND
A+5V
A.GND
Y
V.GND
C
V.GND
CR/ R
V.GND/ G
RJ702
0 Ω
5V
IC805
NJM4580EDTE1
MIXING AMP
Q804
B1GFGCAA0001
MUTING
Q407
DTC114EUA106
MUTING CONT.
Q406
UN5111TX
MUTING CONT.
Q405
DTC114EUA106
MUTING CONT.
Q404
UN5214TX
RESET
X401
(8MHz)
IC402
C2BBFD000350
SYSTEM CONTROL
Vss
X OUT
X IN
RESET
E-CS
TEST
CNVss
WIDE1
WIDE2
DVD STAT
DVD CMD
DVD CLK
LCLR
LCLK
LSTB
LDATA
PWCONT
SYNC
AVss
VREF
Vcc
MUTE
OPENSW
TRAY SW+
TRAY/ TRV
F IN
R IN
TRAYMUT
D WIDE1
D WIDE2
525P MUTE
B REQ
B CS
B CLK
DATA O
DATA I
CS MODEL
KEY2
KEY1
CS REG
F=4MHz
2.2V P-P
2.4V P-P
Q403
2SD1819ATX
INTERFACE
Q402
2SD1819ATX
INTERFACE
Q401
2SD1819ATX
INTERFACE
RJ801
RJ804
RJ805
D408 MA111TX
D407 MA111TX
D409 MA111TX
D404 MA111TX
D405 MA111TX
D406 MA111TX
D402 MA111TX
D403 MA111TX
D401 MA111TX
D807 MA111TX
D808 MA111TX

SCHEMATIC DIAGRAM–10

C MAIN CIRCUIT

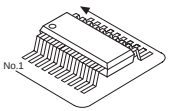
:POSITIVE VOLTAGE LINE :AUDIO SIGNAL LINE



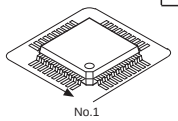


SL-DT300(EG) MAIN CIRCUIT DIAGRAM

C0CBCBD00002	6PIN	C9ZB00000394	32PIN
C0ABHB000004	8PIN	C2BBFD000350	42PIN
C0JBAR000155	8PIN	NJM4580EDTE1	8PIN
C0ABBA000121	8PIN	C1DB00000582	16PIN
BU2050F-E2	14PIN		



MN103S26EGA	176PIN	AN8703FH	64PIN
MN102H60GFB	100PIN	MN677531KA	208PIN
MN5B00	80PIN	C0FBBK00022	48PIN



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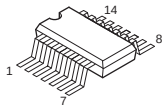

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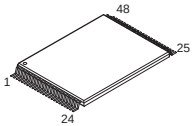

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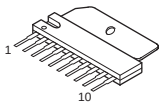

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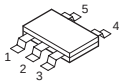
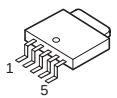
C0JBAB000356
C0JBAA000001



PQ1CZ31H2ZP
C0DBZHE00011
C0DBFFG00004
C0CBAAE00014



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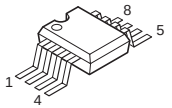
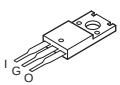
C3EBFC000025



NJM78M05FA



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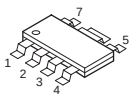

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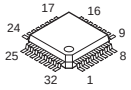

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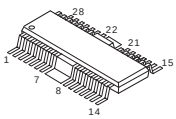

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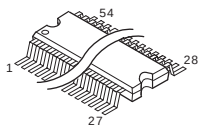

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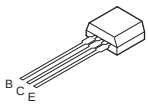

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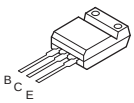

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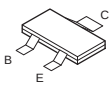
DTC114EUA106
UN2121-TX
2SC39300XL
2SA1532TX

UN5211TX
UN5212TX
UN5214TX
UN511MTX



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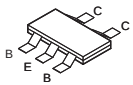

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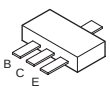

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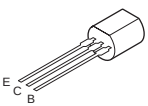

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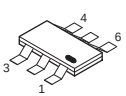

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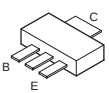

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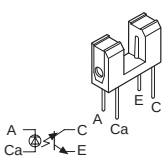
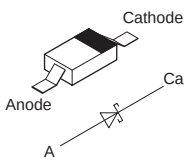


MA728TX
MA735TX



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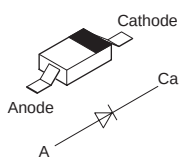

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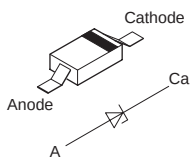

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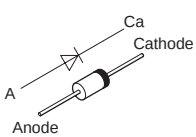
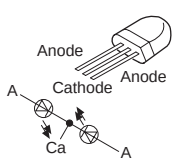


SML79455C



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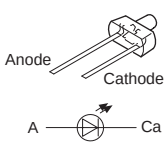
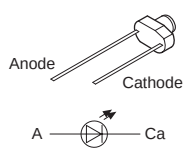
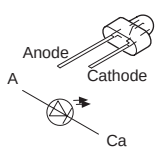


B3ACA0000189



SELS5923C



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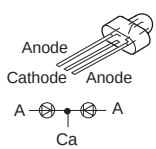

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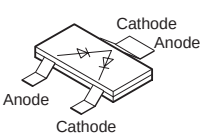
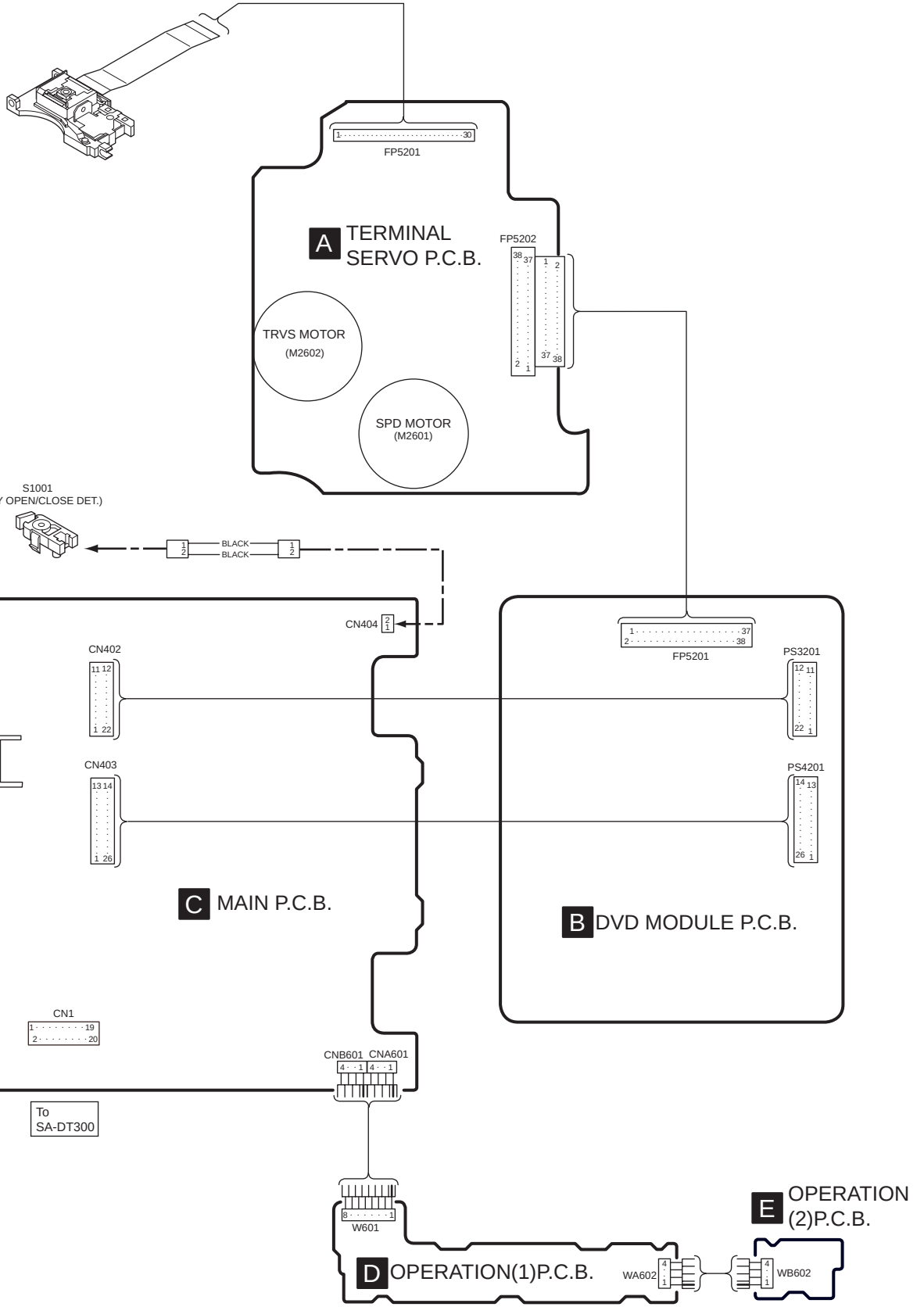
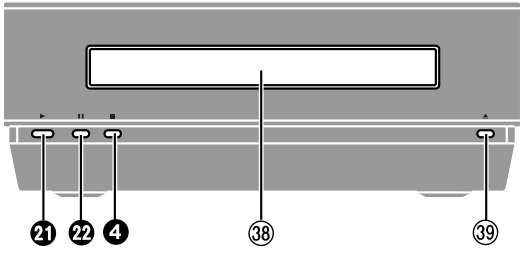
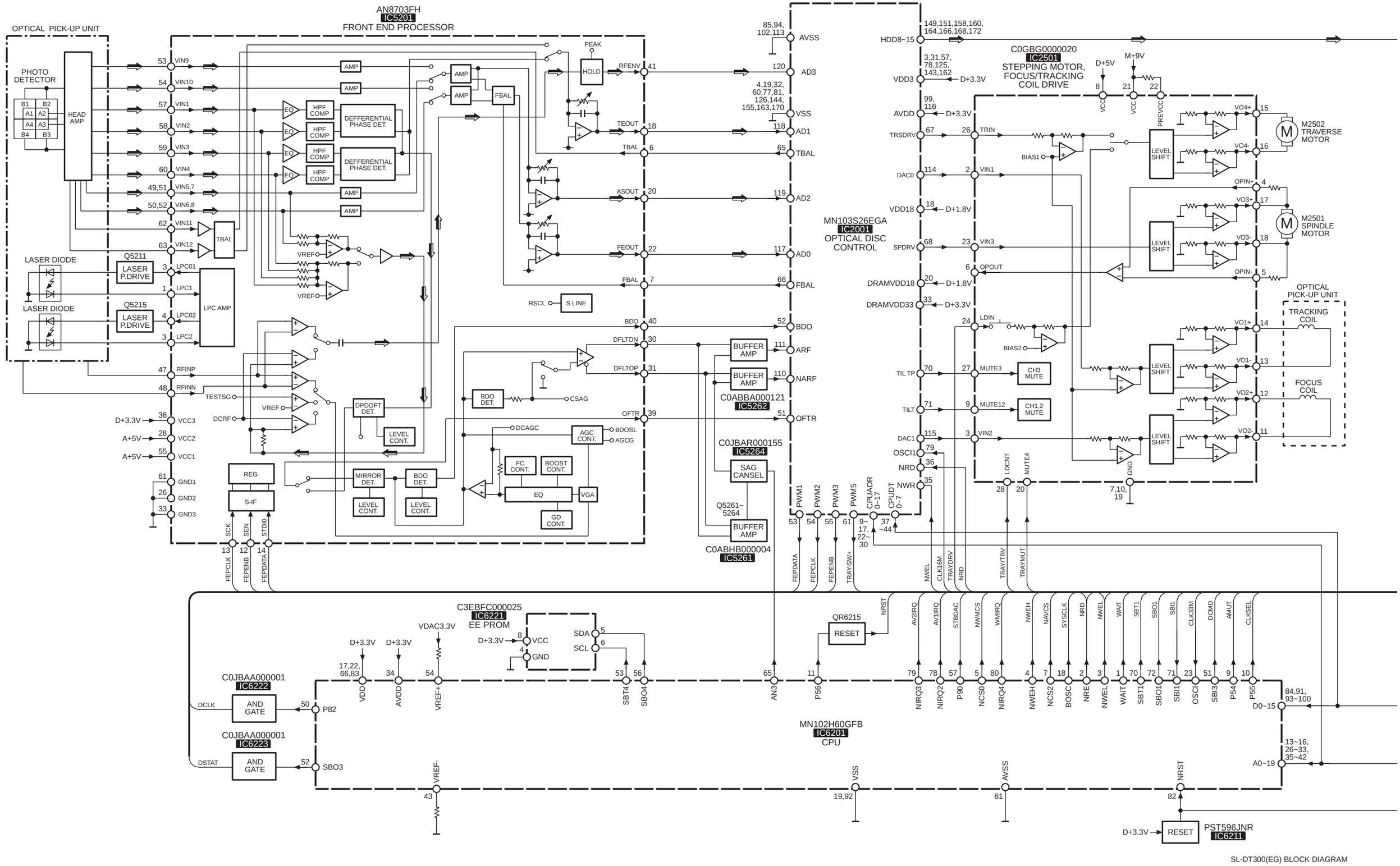



FP5201
A TERMINAL SERVO P.C.B.
FP5202
TRVS MOTOR (M2602)
SPD MOTOR (M2601)
S1001 (TRAY OPEN/CLOSE DET.)
BLACK
BLACK
CN404
CN402
FP5201
PS3201
VIDEO OUT / S-VIDEO OUT
CN403
PS4201
C MAIN P.C.B.
B DVD MODULE P.C.B.
CN1
CNB601 CNA601
To SA-DT300
W601
D OPERATION(1)P.C.B.
WA602
WB602
E OPERATION (2)P.C.B.

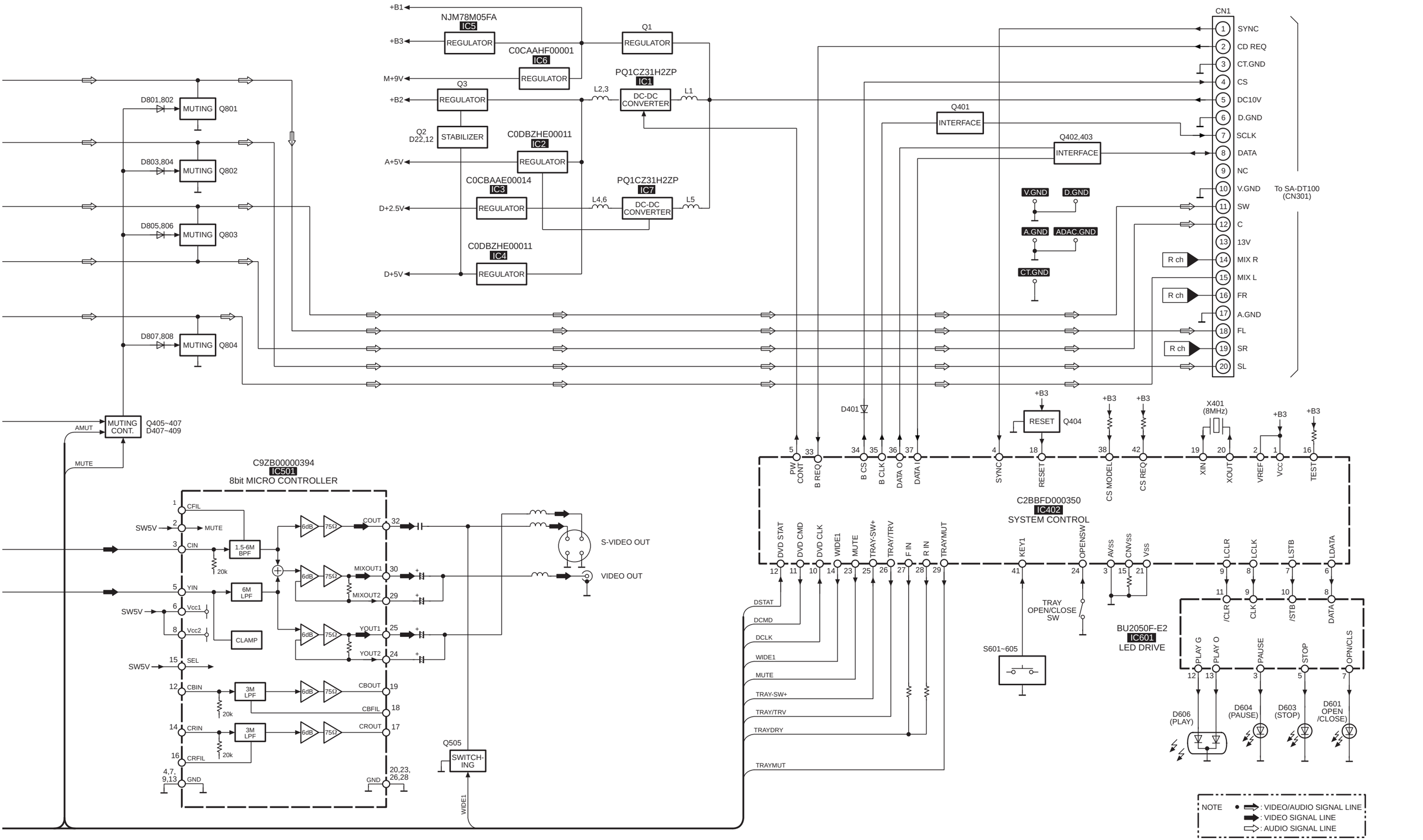


Buttons ❹, ㉑ and ㉒ function the same as the controls on the remote control.

㊳ **Disc tray**
㊴ **Open/close button [⏏]**


AN8703FH
IC5201
FRONT END PROCESSOR
OPTICAL PICK-UP UNIT
PHOTO DETECTOR
HEAD AMP
LASER DIODE
LASER DIODE
Q5211
LASER P.DRIVE
Q5215
LASER P.DRIVE
LPC AMP
TBAL
AMP
EQ
HPF COMP
DEFFERENTIAL PHASE DET.
VREF
PEAK
HOLD
FBAL
S LINE
BDO DET.
CSAG
DPDOFT DET.
LEVEL CONT.
DCAGC
AGC CONT.
BDOSL
AGCG
FC CONT.
BOOST CONT.
EQ
VGA
GD CONT.
MIRROR DET.
REG
S-IF
SCK
SEN
STDI0
FEPCLK
FEPENB
FEPDATA
BUFFER AMP
C0ABBA000121
IC5262
C0JBAR000155
IC5264
SAG CANSEL
Q5261~5264
C0ABHB000004
IC5261
MN103S26EGA
IC2001
OPTICAL DISC CONTROL
C0GBG0000020
IC2501
STEPPING MOTOR, FOCUS/TRACKING COIL DRIVE
LEVEL SHIFT
M2502 TRAVERSE MOTOR
M2501 SPINDLE MOTOR
OPTICAL PICK-UP UNIT
TRACKING COIL
FOCUS COIL
CH3 MUTE
CH1,2 MUTE
C3EBFC000025
IC6221
EE PROM
C0JBAA000001
IC6222
C0JBAA000001
IC6223
AND GATE
MN102H60GFB
IC6201
CPU
QR6215
RESET
PST596JNR
IC6211
SL-DT300(EG) BLOCK DIAGRAM

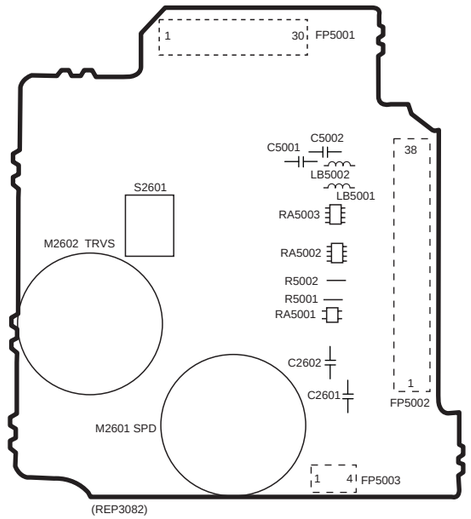
C0CBCBE00001
IC6251
DC-DC CONV.
D+5V
D+3.3V
73~76, 78~81
STD0~7
1,11,25,48,61, 68,85,93,101,105, 112,141,160,172, 179,188,197,205
VDD/PLLAVDD/ APLLADD
C0CBCBD00002
IC3071
REGULATOR
A+5V
VDAC+3.3V
117,127
AVDD
C0DBFFG00004
IC6261
REGULATOR
D+2.5V
D+1.8V
5,16,37,57, 77,97,99,107
LVDD/PLLVDD/ APLLVDD
MN677531KA
IC3001
AV DECODER
SRCK 88
LRCK 87
AOUT0 90
AOUT1 91
AOUT2 92
EXTCK 100
DACCK 86
VCR OUT 116
VCOUT 121
VYOUT 131
C0FBBK000022
IC4211
8CH AUDIO D/A CONVERTER
BCKIN 40
LRCIN 41
DIN1 45
DIN2 46
DIN3 47
SERIAL INPUT I/F
NRST 37
STBDAC2 36
SBT1 35
SBO1 34
SBI1 33
RSTB
ML
MC
MDI
MDO
FUNCTION CONTROL I/F
EXTCLK 38
SCLKI
SYSTEM CLOCK MANAGER
SYSTEM CLOCK
OVERSAMPLING DIGITAL FILTER WITH FUNCTION CONTROLLER
ENHANCED MULTI-LEVEL DELTA-SIGMA MODULATOR
DAC
OUTPUT AMP AND LOW-PASS FILTER
VOUT1 (VOUT2)
VOUT3 (VOUT4)
VOUT6
VOUT5
VOUT7 (VOUT8)
14 (13)
12 (11)
9
10
16 (20)
ZERO DETECT
ZFLG1~6
ZERO8
ZERO7
ZFLAG
1~6
32
30
48
VCC
AGND
DGND
18,22, 26,28
17,21, 23,27
44
A+5V
NJM4580EDTE1
IC802
IC803
IC804
IC805
BUFFER AMP
MIXING AMP
BA4558FHTT1
IC801
VREF
+B2
Q3111
Q3106
Q3101
C3ABPG000063
IC3061
MEMORY
A0~11
20,22~26, 29~35
MA0~11
2~4,6~8, 10,201,203, 204,206,207
DQ0~15
2,4,5,7,8, 10,11,13,42, 44,45,47,48, 50,51,53
MDQ0~15
158,159,161, 162,164,165, 167,168,170, 171,173,175, 178,180,181
LDQM 15
DQMLM 189
/RAS 18
XRAS 196
/CAS 17
XCAS 195
/WE 16
XWE 193
/CS 19
XCSE 199
CLK 38
MCK 185
D+3.3V 1,14,27
VDD
3,9,43, 49,
D+3.3V
VDDQ
VSS 28,41, 54
VSSQ 6,12, 46,52
XWR 22
XDK 19
XHINT2 18
XHINT 17
XRST 13
CLK27 96
HA1~11 27~36, 38~42, 44~46
HD0~15 49~52, 54~56, 58~60, 62,63 65~67
XCS 24
HCLK 26
XRD 23
XWR 22
NWEH
WAIT
AV2IRQ
AV1IRQ
NRST
NAVCS
SYSCLK
NRD
NWEL
CLK27M
CLK16M
CLKSEL
CLK33M
EXTCLK
NRD
NWEL
1~8, 17~25, 48
A0~18
11
XWE
28
XOE
29~36, 38~45
DQ0~15
12
XRESET
VDD 37
D+3.3V
VSS 46
C3FBMG000012
IC6301
16M FLASH ROM
4
13
14
15
10
CLK54
CLK16
FSEL
CLK33
768fs
C1DB00000582
IC6501
CLOCK GENERATOR
D+3.3V 1
VDD1
D+3.3V 5
VDD2
XTI 7
XTO 8
VSS1 2
VSS2 6
VSS3 12
X6501
(36.864MHz)
XTO 8
C0JBAB000356
IC6521
NOT GATE
2
4
MN5B00
IC6801
WM
51 EXPCK0
53 EXBCK0
54 EXLRCK0
47 DIN0
19 DIN1
58 DIN2
3,33 EXSCK/EXDCK
HD0~7
HA0~2
Vcc
VDDCORE
9,10,14, 17,21,23, 26,27
28, 29,35
6,15, 24,25, 36,59, 66,71
2,30, 56
D+3.3V
D+2.5V
Vss 12,22, 52,62
VssCORE 16,69
NRESET 31
NHWE 37
NHCS 39
NHRE 41
NHINT 42
NHDK 43
NRST
NWEL
NWMCS
NRD
WMIRQ
WAIT



SL-DT300(EG) BLOCK DIAGRAM

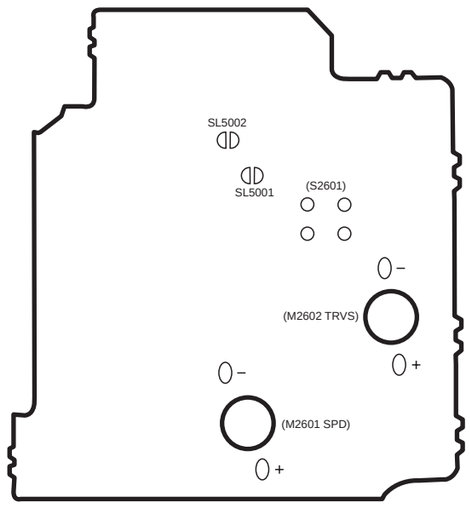
Note: This printed circuit board diagram may be modified at any time with the development of new technology.

A TERMINAL SERVO P.C.B. (SIDE : A)

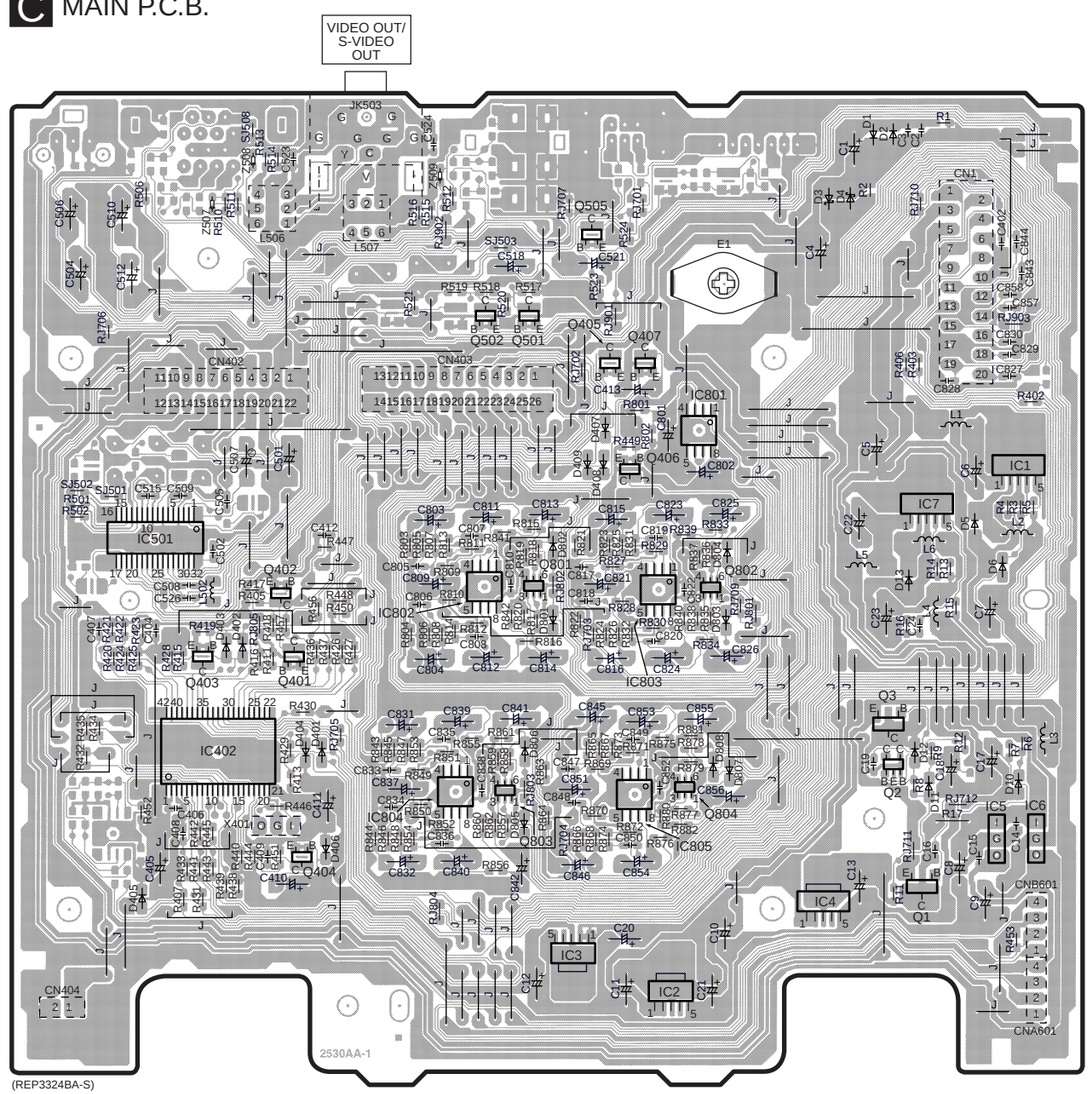


(REP3082)

A TERMINAL SERVO P.C.B. (SIDE : B)

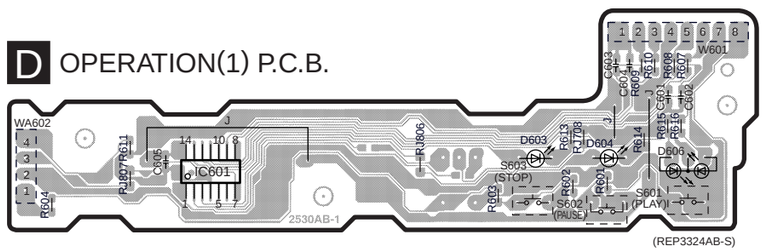


C MAIN P.C.B.



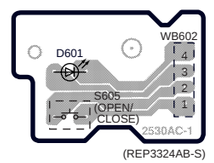
(REP3324BA-S)

D OPERATION(1) P.C.B.



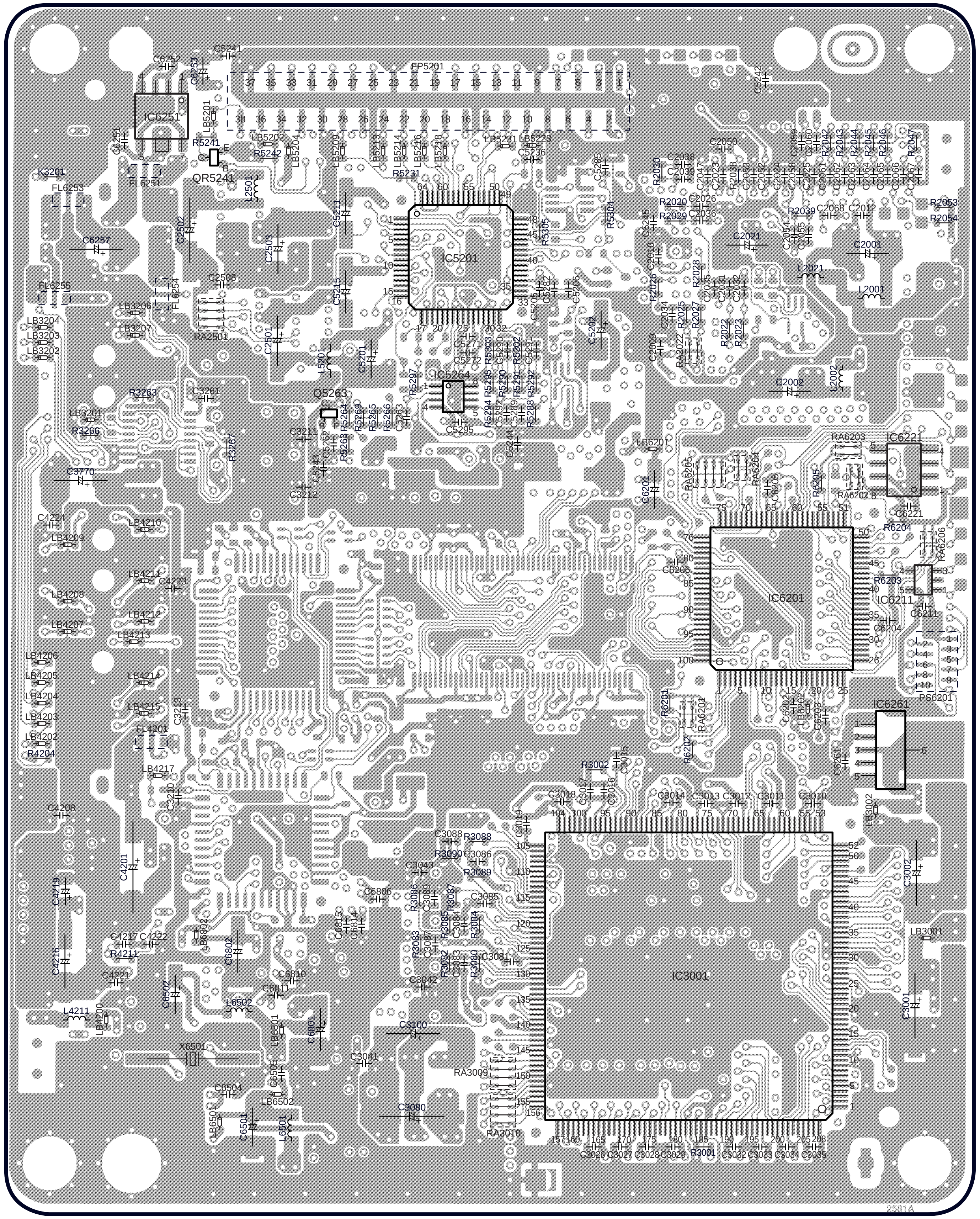
(REP3324AB-S)

E OPERATION(2) P.C.B.



(REP3324AB-S)

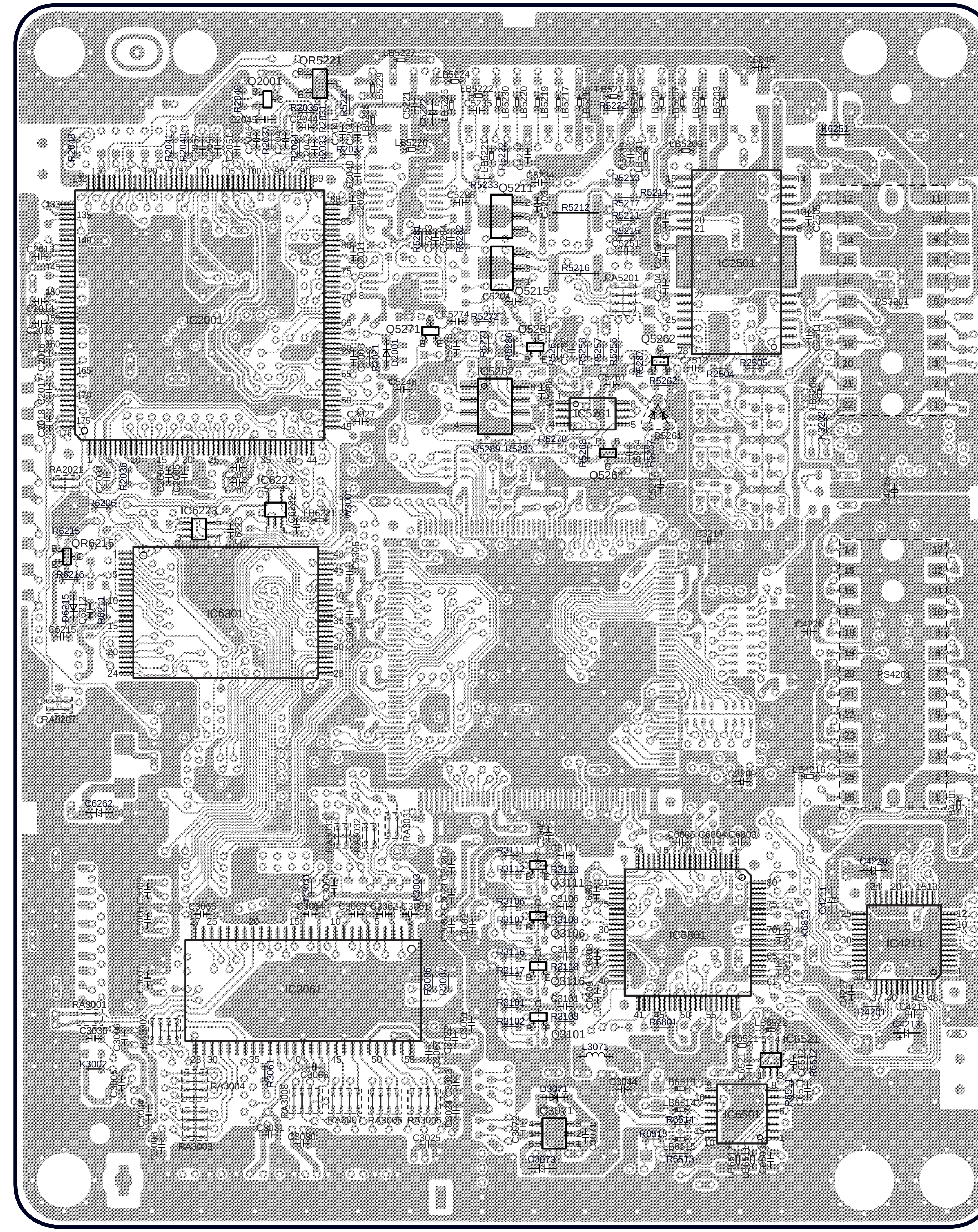
B DVD MODULE P.C.B. (SIDE : A)



IC6251
FP5201
IC5201
IC5264
Q5263
QR5241
IC6201
IC6221
IC6211
IC6261
PS6201
IC3001
X6501
L4211
L6501
L6502
L2001
L2002
L2021
L2501
L5201
C2001
C2002
C2021
C3100
C3080
C3001
C3002
RA2501
RA3009
RA3010
FL6251
FL6253
FL6254
FL6255
FL4201
2581A

(REP3379G-N)

B DVD MODULE P.C.B. (SIDE : B)

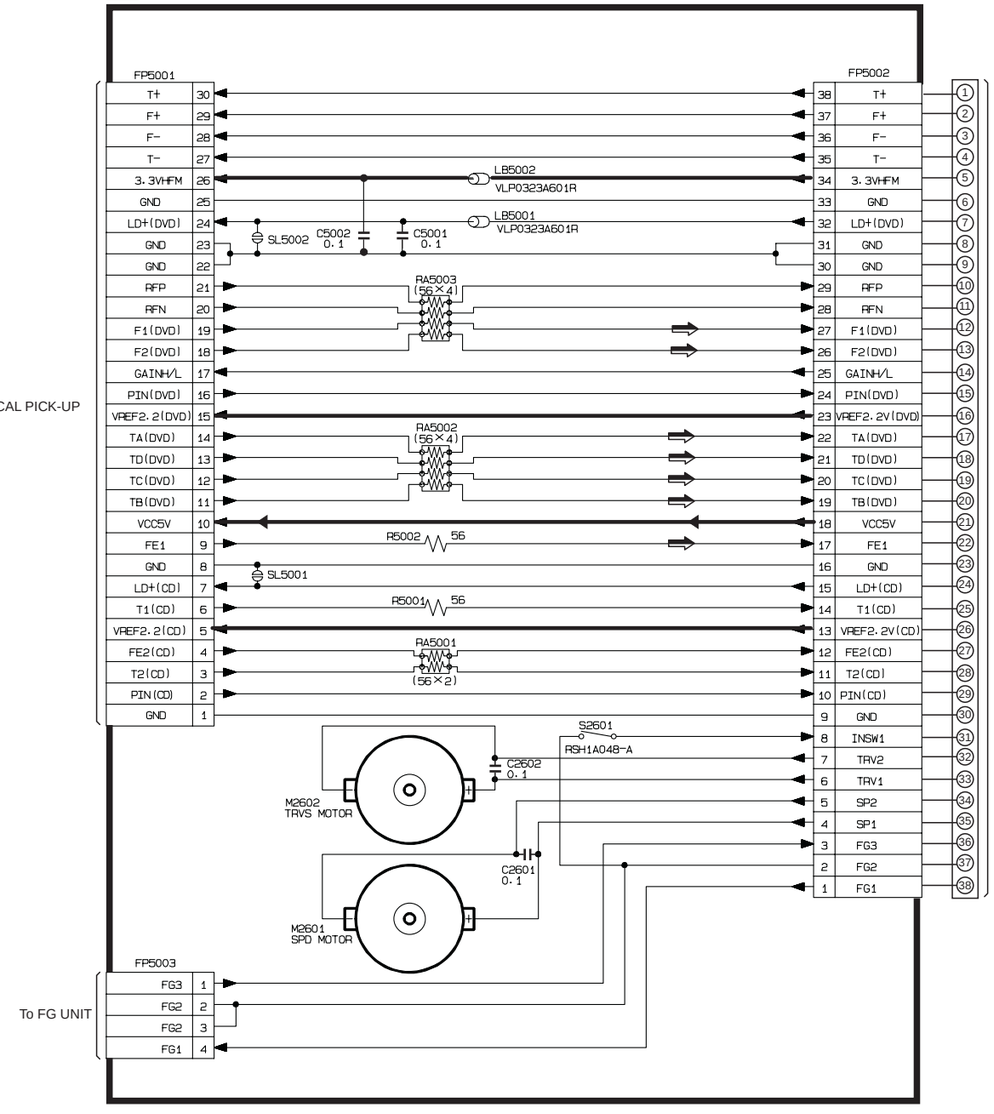


QR5221
Q2001
IC2001
IC2501
PS3201
PS4201
IC5262
IC5261
Q5211
Q5215
Q5261
Q5262
Q5264
Q5271
D5261
D2001
IC6222
IC6223
QR6215
IC6301
IC3061
IC3071
D3071
L3071
Q3111
Q3106
Q3116
Q3101
IC6801
IC4211
IC6521
IC6501
RA3003
RA3004
RA3005
RA3006
RA3007
RA3008
RA6207
RA2021
RA5201

NOTE:
The number which noted at the connectors on the schematic diagram as
"SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2"
indicates the schematic diagram serial number located on the left corner in the schematic diagram.

A TERMINAL SERVO CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/AUDIO SIGNAL LINE



SL-DT300(EG) TERMINAL SERVO CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM–2

B DVD MODULE(FEP) CIRCUIT

:POSITIVE VOLTAGE LINE :VIDEO/ AUDIO SIGNAL LINE

FP5201 K1MN38A00005

To A TERMINAL SERVO CIRCUIT (FP5202) on SCHEMATIC DIAGRAM-1/6-C~F

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/12-A

To B DVD MODULE(CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/ 1,2-E

To B DVD MODULE(SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-A, 3/12-F, 3/1-C, 3/1-B, 3/12-B, 3/1-C

To B DVD MODULE(AUDIO DAC) CIRCUIT on SCHEMATIC DIAGRAM-6/12-D

To B DVD MODULE(SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-B, 3/1-A, 3/1-C, 3/1-A, 3/12-F

To B DVD MODULE(CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/ 1-B

QR5241 UN511MTX SWITCHING

QR5221 UN2121-TX POWER SUPPLY

Q5211 2SB1115-T LASER POWER DRIVE(DVD)

Q5215 2SB1115-T LASER POWER DRIVE(CD)

IC5201 AN8703FH FRONT END PROCESSOR

Q5261 2SC39300XL BUFFER AMP

Q5262 2SC39300XL BUFFER AMP

Q5263 2SA1532TX BUFFER AMP

Q5264 2SC39300XL BUFFER AMP

IC5261 C0ABHB000004 BUFFER AMP

IC5264 C0JBAR000155 SAG CANCEL

Q5271 UN5211TX SWITCHING

IC5262 C0ABBA000121 BUFFER AMP

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/11-C

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/1-A, 3/12-F, 3/1-C, 3/12-F, 3/12-D

To B DVD MODULE (CPU) CIRCUIT on SCHEMATIC DIAGRAM-7/ 1-B

To B DVD MODULE (VIDEO DAC) CIRCUIT on SCHEMATIC DIAGRAM-5/12-H

To B DVD MODULE (SODC) CIRCUIT on SCHEMATIC DIAGRAM-3/12-F

SL-DT300(EG) DVD MODULE(FEP) CIRCUIT DIAGRAM